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COURSE OF

LECTURES ON THE BLOOD,

AND ON

THE CHANGES WHICH IT UNDERGOES DURING DISEASE,

Delivered at the College of France in 1837-8,

BY

M. MAGENDIE.

LECTURE XVII.

Action of defibrinised blood.—Effects of subcarbonate of soda.—Different degrees of coagulability, in the blood of animals.—Action of oil on the blood.—Disease of the heart.—Substances which promote the coagulation of the blood.—Substances which oppose its coagulation.—Direct and indirect effects of cream of tartar.

GENTLEMEN:—We have a number of animals under experiment, whose condition will aid us in our study of the effects of non-coagulability of the blood; we will pass some of them in review.

Here is a dog, in the first place, who has been let blood to the extent of 450 grammes; immediately after the operation the fibrine was separated with care, and the rest of the fluid reinjected into the veins. Since then the animal has lain on his side, as if his limbs had lost even the share of strength necessary to support his body; his respiration at once became plaintive, his movements few and difficult, and he appeared to have lost the power of hearing. But, in addition to all this, he passed sanguinolent motions, resembling very closely the alvine dejections characteristic of dysentery. Now, as too short a time has elapsed since the removal of the fibrine to allow of the formation of ulcerations in the intestines, it is more than probable that the blood escapes through the coats of the vessels on the surface of the mucous membrane. May we not legitimately establish some comparison between the intestinal hæmorrhage thus occurring in defibrinised dogs, and that observed in individuals labouring under typhoid fever? In both cases the coagulability of the blood is evidently diminished, and we know that when the blood loses the healthy measure of that property it acquires the singular quality of being capable of extravasation by imbibition through the porosities of its tubes.

In this little vessel you may examine a specimen of the defibrinised blood injected into the veins of the animal in question; it has no particular aspect, it becomes red from the contact of the air, just as it would do did it contain its normal proportion of fibrine; in fact, it is not distinguishable by its physical characters from ordinary blood; and yet we know that it is unfit for circulation. How utterly absurd, then, to imagine that we can ascertain the absence of some, or predominance of other elements of the blood, by simply breaking up the clot, or stirring the serum with the handle of a spoon!

Here is another dog that was in the enjoyment of the best possible health yesterday; he was gay, lively, and ready to bite every one that came in his way. He is no longer the same animal; he is now dull, dejected, and apparently indifferent to what goes on around him. Whence comes this metamorphosis? From a change in the degree of coagulability of his blood. Ten grammes of subcarbonate of soda, dissolved in half a pound of water, were injected this morning into the jugular; scarcely had the operation been performed when the pulsations of the heart became tumultuous and violent, and the function of respiration laborious; the animal had all the appearance of suffering under the action of a most violent poison. The medical man, in a case like this, would at once set about examining each apparatus, organ, and tissue, in hopes of discovering the starting point of the malady; he finds everything sound, every organ, without exception, perfectly healthy; and he has forgotten nothing in his scrutiny *except the liquids*. Subsequently effusions take place into the pleura, the pulmonary tissue, and on the surface of the intestines; let him now return to his examination, and he will discover that the solids are seriously affected. How is this diver-

sity of conditions to be explained? In one case you discover nothing amiss, in the other very serious disorders; have your researches been defectively made, or the symptoms primitively ill marked? Neither one nor the other; so long as the liquids only were affected, the character of the malady escaped you, because you sought for it where it did not exist. The solids became diseased subsequently; this you ascertain, and you then fancy that the source of all the disorders observed exists in the proper tissue of those solids; against these you direct your treatment, and in doing so you commit a new error as serious as the former; you first mistake the cause, and next apply your remedial measures to an effect.

The animal from which we extracted a considerable proportion of fibrine presents a marked example of the analogy existing between the morbid states producible experimentally, and certain diseases observed in the human subject. He is evidently extremely ill, his pulse is small, his respiration gasping, various ronchi are audible in the chest, and he has refused to eat, although tried with tempting food; but what I wished especially to point out to you is a sort of eruption which resembles, in no slight degree, the petechiæ of fever, and which, like them, appears to be produced by exhalation of blood into the substance of the skin. The hair has fallen off in the neighbourhood of several joints and at the lateral parts of the abdomen, and in the spots where the integuments are laid bare reddish-brown specks, which do not disappear on pressure of the finger, are perceptible. Whether these are true ecchymoses, or some cutaneous affection, independent of the general state of the economy, I really do not know, but it was worth pointing out to you, in order that we might remember to seek for it in future under similar circumstances. This animal is also affected with the species of purulent ophthalmia to which I have repeatedly invited your attention. The conjunctiva is fungous, puffy, and covered with a greenish film; and the cornea strewed with round, superficial ulcerations, which will inevitably end by perforating that membrane.

Gentlemen, we have by no means exhausted the subject of the coagulation of the blood, and of this I occasionally meet with very evident proofs where they are hardly to be looked for, as the following facts will show:—

Last Sunday I had a hog killed at my country seat, which had previously been crammed for slaughter; the animal had acquired an enormous bulk, both from general enlargement and deposition of fat. I caused some of its blood to be received into a vessel directly, as it flowed from an opened artery, but though I took every possible precaution to ensure success, I failed in producing coagulation; and, as you perceive, this specimen of the animal's blood is still perfectly fluid. It certainly appears more viscid than that of defibrinised animals, but this is the sole point of distinction between the two descriptions of blood; it does not present the slightest trace of the separation into serum and clot, which is always observable in the normal fluid. This fact is, I freely confess, totally at variance with all those we have heretofore observed on the same question. I shall not, for the present, endeavour to strike out any explanation of this difficulty, convinced, as I am, that ulterior experience will give us the true solution of what now appears incomprehensible. Be that as it may, however, the negative phenomenon in question is an extremely striking one; here was an animal in the enjoyment of sound, nay, of exuberant health; he dies of hæmorrhage artificially induced, and his blood, though placed in the most favourable conditions for coagulation, does not solidify. I know full well that it might, in strictness, be urged that the animal's blood was not in a normal state; for animals crammed for our tables swallow an immoderate quantity of nutriment, and whatever time they do not employ in eating is spent in sleep. The hog of which I now speak in particular, had grown so stout, that there were absolutely five or six inches deep of fat all over the body; the muscular substance was almost wholly transformed into adipose tissue; so that, although it is in the nature of such animals to be fat, it is impossible to affirm that the condition described was a healthy one. It is even probable that the blood of this animal was modified in composition; that certain principles were wanting and others present in excess; for that of other animals of the same species, similarly fed, tends so powerfully to coagulate, that it is necessary to shake it violently while it flows from the artery, in order to ensure its remaining in a liquid state, such as is requisite for its subsequent preparation in various ways.

I fancied that this blood might contain more fatty matter than usual, but on plunging a piece of paper into it you perceive that no indication confirmative of my supposition is obtained. I have, however, ascertained that it produces no change in the colour of turmeric paper, whereas you are aware the serosity of the blood is ordinarily alkaline. Examined under the microscope it presents irregular globules; they are in the main circular, but as their periphery is thickly set with minute prominent points, the whole wears a stellate aspect; there are some white globules also to be seen, which may be presumed to be formed either of fatty matter or coagulated fibrine. I will evaporate a certain quantity of the fluid, and then test it with alcohol

and ether, in order to ascertain the real state of the case; this process will show, without fail, whether the blood be or be not combined with fatty matter.

You will not be surprised that I felt anxious to learn if I could produce a similar modification of the blood by artificial means. I, with this view, took some common olive oil, which contains a notable proportion of stearine, one of the constituent principles of fat, and mixed it with arterial blood at the moment of its extraction from the vessels of a living animal. The whole has, as you here perceive, become solid; but the solidification is of a peculiar kind. Judging by the degree of consistence and tremulous appearance of the mass, it must rather be looked on as a kind of jelly, than as a true coagulum; the simple weight of this glass rod suffices to cut through the whole mass. This mixture examined under the microscope, has presented the following appearances:—No globules are to be seen, but, in their stead, particles, small transparent masses, which, without doubt, are composed of a mixture of fat and fibrine, or albumen; there is no stellated aspect here, as in the case of the hog's blood.

This subject meets with further illustration in some observations made on specimens of blood taken from crammed oxen, and sent me by M. Briaune, a distinguished agriculturist. Although this blood was obtained from animals placed in very nearly the same conditions as the hog of which I have been speaking, it is perfectly unlike that we have just examined; it has rapidly separated into two parts, of which the firm and elastic clot lying in this saucer is one. The serum which is not in undue abundance, holds a large proportion of globules in suspension, and these are, to all appearance, regularly formed; the fibrine is abundant, elastic, resisting, and altogether of the most healthy description. The oxen furnishing this blood are fed wholly on the residue of beet-root from which the saccharine matter has been extracted for the manufacture of sugar; whereas, hogs are fattened on vegetable substances containing an abundance of fecula. It is possible, but not to be affirmed in the present state of our knowledge, that the difference of the animals' diet may account for that manifest in their blood. The information possessed on the distinctive characters of the blood in various animals is exceedingly vague; all we know for certain is, that such do exist to a very remarkable extent. Here, for example, is some horse's blood; you see that there is scarcely any serum, but, in its stead, a considerable mass, equalling the red clot in size, of what is called buff. This, which is nothing more than solidified fibrine, is wisely termed the white clot by veterinary practitioners, who are far from attaching the same degree of importance to its appearance as those practising on the human subject; if such blood as this were extracted from one of us, the medical man would declare it to be frightfully inflamed; that we were about to be attacked with pleurisy, or that an intense pneumonia was hatching in our thorax. As respects the influence of forced feeding on the blood, I must confess that until facts, so utterly at variance with each other as those I have adduced, are accounted for, I shall be unable to come to any satisfactory decision.

I have lately had an opportunity of ascertaining a fact which bears upon our inquiries regarding the sounds of the heart and the properties of the blood. The particulars of the case to which I allude have been carefully collected by M. Fauvel, my late house-surgeon, and I intend publishing them so soon as the results of the post-mortem examination are drawn up. For the present I may state to you that the patient, to whose case I advert, was a young girl affected with organic disease of the heart; in addition to hypertrophy of both ventricles, respecting the existence of which no doubt could be entertained, there was, in all probability, superadded a morbid condition of the auriculo-ventricular valves. On applying the ear to the precordial region a very loud sound of expulsion was heard, but the two normal sounds corresponding to the systole and diastole had totally disappeared; there was an evident movement of totality in the thorax dependent on the contractions of the heart. The patient had for the last two or three days been in a dying state; an emphysematous condition of the lung augmented the dyspnœa under which she ordinarily laboured, and, besides this, the proportions of the pectoral cavity were much diminished by the pressure of a large collection of fluid in the peritoneum on the diaphragm; in fact, there was no space for her to breathe in. Such was the state of things when, the day before yesterday, one of my colleagues in the hospital, who saw my patients on that day, prescribed a small bleeding: I say small, because, in truth, six ounces of blood are a mere trifle in the estimation of those who take away twelve or sixteen ounces at once, under the impression that such dyspnœa as that of my patient, may be so relieved. The present is not the time to combat this pernicious theory, and I pass at once to the point more immediately interesting us. The blood drawn coagulated almost instantly; there was an abundant share of serum, but the clot retracted in the normal manner. She died yesterday morning, and here is some of her blood (obtained just this moment at the autopsy) which is perfectly liquid; it scarcely presents the least trace of even grumous coagula. In this instance, again, the circumstance of death by asphyxia has liquefied blood which had been the day before perfectly coagulable.

This fact lends some support to the notion that there is a line of demarcation to be established between the blood of a living subject and of one who has just expired. You will readily understand that this is a question of vast importance, and well deserving of further investigation.

You have on this board, Gentlemen, lists of the different substances on which we have experimented with reference to their action on the blood, as well as of some others, which I have either examined in your absence, or am about presently to consider in this point of view. The two lists embrace respectively such agents as are capable of rendering the blood liquid, and such as are possessed of the power of promoting its coagulation. You must bear in mind, however, that the arrangement here made is not put forward as a final one; that, on the contrary, it will no doubt be found requisite, from improved experience, to modify it more or less.

SUBSTANCES WHICH PROMOTE THE COAGULATION OF THE BLOOD.

Water.
Sugared water.
Hydrochlorate of soda.
Hydrochlorate of potassa.
Hydrochlorate of ammonia.
Hydrochlorate of baryta.
Serum of ascites.
Boric acid.
Borax.
Nitrate of silver.
Hydrosulphate of potassa and ammonia.
Seltzer water.
Vichy water.
Seidlitz water.
Iodurct of potassium.
Tartrate of antimony and potassa.
Sulphate of magnesia.
Alcohol.
Cyanuret of gold.
Cyanuret of mercury.
Acetate of morphia.
Hydrochlorate of morphia.
Mannite.

SUBSTANCES WHICH OPPOSE THE COAGULATION OF THE BLOOD.

Sulphuric
Hydrochloric
Nitric
Tartaric
Oxalic
Citric
Lactic
Acetic
Tannic
Hydrocyanic — *acids.*
Soda.
Potassa.
Lime.
Ammonia.
Carbonates of — *soda, potassa, ammonia.*
Nitrates of — *potassa, lime, strychnia.*
Sulphate of morphia.
Nicotine.

Among the substances which do not prevent coagulation, you observe I have placed *water*, a fluid which enters in large proportion into the composition of our ordinary drinks. Its possession of this property accounts for a fact which embarrassed us not a little some time past; I mean the small quantity of serum in the blood of the animal submitted to repeated venesection, the fluid withdrawn being on each occasion replaced by an equal volume of water. I fancied the water was retained within the spongy network of the clot; we now see the reason of the fact in the power water possesses of facilitating coagulation.

In the same list are found alcohol and sugared water, which, as it does not affect the globules, supplies us with a means of studying the fibrinous parenchyma of the clot.

Next come the hydrochlorates of soda and ammonia, the serosity effused in a case of ascites, iodurct of potassium, sulphate of magnesia and nitrate of silver; the latter, though it does not prevent coagulation, affects the colour of the fluid in a most singular manner, by converting it into an olive green. On the other hand, almost all the acids liquefy the blood; I have to-day made numerous trials of them in new proportions. Thus, I stated to you the other day the nature of the action of a single drop of sulphuric acid on a given quantity of blood; and I have since pushed the experiment further. I put fifteen drops of the acid into thirty centilitres of water, and poured four drops of this solution into twenty centilitres more of water, and found that even this liquid, divided into infinitesimal doses, rivalling those of the homœopathists, has, notwithstanding, liquefied the blood and altered the constitution of the globules, although it did not coagulate the albumen.

Hydrocyanic acid is one of our most energetic poisons, it kills instantaneously. The liquid in the vessel I show you results from the mixture of six drops of that acid, five centilitres of water, and one centilitre of blood. The globules and fibrine have disappeared, and such is the alteration in the characters of the fluid, that I am not in the least surprised at the instantaneous destruction of life caused by this substance.

Mineral waters, being consumed to a very large amount, appeared to offer an interesting subject for investigation: I accordingly set about examining some of them, and have obtained the following results:—

Seltzer water, which is most extensively employed, and drunk even at table, furnished, when mixed in the ordinary proportion,

a very distinct parenchymatous clot; the globules were not dissolved.

The Enghien waters, coming from a source near Paris, and containing hydrosulphates, have acted on the blood in the same manner as those salts. And you will remark that this mineral water is not consumed to the same enormous extent as some others; patients are usually unable to bear a higher dose than five or six glasses daily, or to persist in its use longer than a month.

Seidlitz water has not prevented coagulation from taking place; a nebulous clot has formed at the upper part of the vessel into which some of it was poured, and a parenchymatous one at the bottom. Besides this, the scarlet colour of the liquid has not disappeared, — a new and demonstrative proof that atmospheric oxygen is not the only agent capable of giving the blood that colour.

Here is another mineral water—that of Vichy—which is much employed in calculous affections, gout, &c.; it is an alkaline compound, and contains a large proportion of bicarbonate of soda; so large, indeed, that the salt is extracted from the water and sold under the name of "Vichy pastilles." The ordinary dose of this water is six or seven glasses daily. Our first experiments led to a belief that it ought to liquefy the blood, and promote the occurrence of pneumonia; some modification of that opinion is, however, necessary; for the mixture I now show you of five parts of Vichy water, and one of blood, has furnished a clot. The coagulum is, indeed, a remarkable one, from its undulations, which resemble either the motions of a liquid confined within a parenchymatous structure, or the oscillatory movements of certain zoophytes.

Some natural Barrèges water has given rise to the formation of a jelly rather than a coagulum; the globules and fibrine both are completely dissolved, whereas the latter principle only was similarly acted on by the Enghien waters.

Ether, mixed with pure water, dissolves the globules, but does not prevent the formation of a coagulum.

The cyanuret of mercury, which is now employed in preference to the bichloride, in the treatment of certain affections, has not caused any evident modification in the process of clotting.

The cyanuret of gold, a compound which is also medicinally employed, has allowed of the formation of a very delicate nebulous clot.

The chloride of the same metal, to which recourse is habitually had by the practitioners of Montpellier, in the treatment of inveterate syphilis, has acted very energetically here; it has altered the constitution of the globules, and prevented coagulation.

Emetine, a proximate principle obtained from ipecacuanha and other vegetables, and on which I formerly composed an essay in conjunction with M. Pelletier, has thrown down a precipitate; this we must examine under the microscope in order to ascertain if the globules are in an anormal state.

Our next article, which is a most violent poison,—the nitrate of strychnia, has caused most perfect liquefaction.

Nicotine, a proximate principle obtained from tobacco, has caused coagulation, but not without modifying the constitution of the globules.

Mannite has also produced a clot.

The nitrate of bismuth has acted very nearly in the same manner as the nitrate of silver.

The ioduret of iron has totally solidified the mixture of water and blood to which it was added.

Before bringing this section of our subject to a conclusion, I have a word or two further to say respecting the singular action of cream of tartar, a substance which is taken medicinally to the extent of two ounces in a single dose. It is a tartrate of potass rendered soluble by a certain quantity of borax with which it is united. I had a drachm of it, dissolved in twenty centilitres of water, introduced into the veins of an animal; instantaneous death was the consequence, the effect on the blood being the same as in a glass vessel. The incomprehensible part of the business is that the substance in question should be so pernicious when introduced into the veins, whereas, when ingested into the stomach, its effects are scarcely perceptible. It cannot be supposed that the stomach acts chemically on it, for that viscus does not decompose either prussic acid, ether, or a multitude of other substances, which are, on the contrary, absorbed in precisely the same state as they are swallowed; animal and vegetable substances are, it is true, susceptible of decomposition in the stomach,—but here is a mineral compound. Tartar emetic, again, if placed in contact with a wound or the intestinal canal excites vomiting; if introduced into a vein it causes death. We must set about a serious inquiry into the source of these different modes of action of one and the same substance. All we can do for the present is to hazard a conjecture on the subject, and the most plausible one seems to be, that the same substance, when taken into the stomach, produces a less marked effect than when injected into a vein, on account of the slowness of the process of absorption in the first instance. This hypothesis remains to be substantiated or reversed by further experiment.

Here is the body of the animal killed by the injection of cream of tartar into its veins in the proportion stated. The first incision I make shows you that the muscles are completely discoloured; the lung is partly engorged, partly hepatised,—in the first in-

stance the blood is imbibed into the tissue of the organ; in the latter it is additionally solidified. The cause of death was, in this instance, the sudden coagulation of the blood; the promptitude with which the fatal result occurred explains the healthy condition of the intestines.

[M. Magendie terminated the lecture by injecting five centilitres of water, holding two grammes of cream of tartar in solution, into the jugular vein of a dog. The animal did not appear to suffer any inconvenience from the experiment.]

UNIVERSITY COLLEGE HOSPITAL.

CASES OF ERYSIPELAS,

WITH

CLINICAL REMARKS,

BY DR. ANTHONY TODD THOMSON.

Delivered January, 1839.

Exciting causes of erysipelas.—Cases of erysipelas from external injury, from contagion, and from mental distress.—Opinions of the lecturer respecting the real nature of the disease.—Complications which occur in erysipelas.—The treatment of the disease by bleeding; by calomel, and tartar emetic; by cinchona and diaphoretics.—Local applications of nitrate of silver.

The numerous cases of erysipelas, which have lately been brought into this hospital, induce me to lay before you my opinions on the nature and treatment of some of them. It is a curious fact that three of those cases still in the hospital, are distinct instances of three of the exciting causes of erysipelas, namely, external injury, contagion, and mental uneasiness; the others could not be traced to any particular exciting cause, and probably depended on gastric irritation supervening an hysterical condition of the habit, as they all occurred in females. It is to the first three mentioned cases that I am chiefly desirous of directing your attention.

The first of these cases is that of Harriet Lewis, a woman twenty-eight years of age, who was admitted into No. 5 Ward, on the 25th of November last. The erysipelas supervened the opening of an abscess on the outer side of the left foot, which, although painful, did not prevent her from walking. About a week after this abscess was opened, she walked a considerable distance and got wet, and the catamenia, which were present at the time, stopped. Three days afterwards, symptoms of fever appeared, attended with severe headach, and tenderness of the whole surface of the body; and, on the following day erysipelas attacked the affected foot, whence it gradually extended to the middle of the thigh, producing œdematous swelling of the knee, previous to her admission into the hospital. On the day of admission the redness and swelling had extended to within an inch of the perineum; the limb was much swelled; the redness intense, and the heat great. The countenance was anxious; the pulse hard, quick, and incompressible; the tongue white, with a dark-brown streak in the back part, and the margin red; the bowels were relaxed, and the urine was scanty. The limb was ordered to be freely scarified and fomented with hot water. The scarifications bled freely, but little improvement followed. She took six grains of mercury with chalk every third hour, and the sound part of the limb, an inch above the inflamed portion, was pencilled with nitrate of silver, to prevent the extension, upwards, of the erysipelas. This object, however, failed; consequently, on the following day, I ordered the whole of the affected surface to be painted with a solution consisting of half a drachm of the nitrate in one ounce of distilled water. On the 28th she was bled to the extent of sixteen ounces, and took four grains of the compound powder of ipecacuanha, with a common saline mixture, every third hour. The blood was much buffed. On the 30th the ipecacuanha was discontinued, and, instead of it, I prescribed a pill containing one grain of calomel and half a grain of tartar emetic, to be taken once in six hours; and a mixture containing carbonate of potash and nitrate of potassa, between each dose of the pills. On the 1st of December, as she was much purged, the pills were omitted; and as her strength was much reduced, she was directed to take an ounce and a half of the infusion of cusparia, and half a drachm of the compound tincture of camphor, every fourth hour; and a saturnine lotion was applied to the limb. On the 3rd, the swelling and inflammation were reduced; the pulse was soft, regular, and 84, and the tongue moist; but the bowels being torpid, she took a dose of castor oil, and after its operation, commenced the use of two grains of the disulphate of quina, in an ounce and a half of the infusion of bark, with seven minims of dilute hydrochloric acid, every fourth hour. She was allowed six ounces of wine daily. On the 6th, as the head was much affected, a blister was applied to the nape of the neck, which relieved the head. On the 10th, although she was improving, yet, being restless at night, she took at bedtime half a grain of hydrochlorate of morphia, in an ounce and a half of camphor mixture; whilst the wine and the application of the solution of the nitrate of silver, to the extending inflamed surfaces, were continued. The inflammation had spread to the loins, covered both nates, and was travelling downwards in the opposite leg. On the 16th, pus having formed in the subcutaneous tissue of the

leg first affected, the skin yielded, and gave vent to a copious discharge of pus, whilst a sloughing sore appeared on the left nates, on which she lay. The general health, however, seemed much improved by the free exit of the pus; but as diarrhœa had again supervened, she was ordered to discontinue the use of the disulphate of quina, and to substitute for it a mixture consisting of ten grains of biborate of soda, one drachm of tincture of catechu, and an ounce and a half of infusion of cinchona, every third hour; and to take, at bedtime, a pill containing a grain of calomel, and the same quantity of opium. The wine was continued. Although from this time she gradually increased in strength, yet abscesses and sloughing sores appeared in various parts of the body. The erysipelas also showed itself, but for a day only, in the right breast, whilst it continued to extend, in a mild form, to the right foot. Little variation has since taken place to the present time. The sloughing ulcers on the nates look cleaner, and those on the legs are cicatrising, but the strength is greatly reduced, the nights are restless, and there is much hazard of the system being worn down by irritative fever, and of the case terminating fatally.

The second case, which was apparently the result of contagion, is that of Isabella Sedgwick, a girl sixteen years of age, in No. 5 Ward, also, who had been in the hospital since the 18th of September, with severe and long-standing porrigo *favosa* of the greater part of the scalp. She was getting well when Lewis was admitted. She was attacked with erysipelas on the 19th of December. The disease made its appearance in the right side of the face, extending to the right ear; both parts were greatly swelled, and covered with large vesications. The tongue was furred, dry, and harsh; the pulse hard; the skin hot; and the bowels were rather torpid. The affected parts were ordered to be painted with a solution of nitrate of silver, containing ten grains to the ounce of distilled water, and she was ordered to take a pill containing one grain of calomel, and three grains of true James's powder, every eighth hour; and, in the intervals, the following mixture: four scruples of carbonate of potash, six ounces of infusion of cinchona, and one drachm of tincture of hyoscyamus; the fourth part to be taken every four hours in a state of effervescence, with a tablespoonful of solution of citric acid. On the 21st the eruption spread over the head; and the parts, which had been affected with porrigo, became greatly swelled and puffy. Several long incisions were made over the right ear; they bled freely, and afforded her much relief. On the 24th the mouth became affected by the mercurial, and the erysipelatous swellings rapidly subsided. On the 7th of this month every trace of the disease had disappeared.

The last case is mentioned merely to notice the exciting cause of the erysipelas, which, in this instance also, attacked the head. The girl, whose name is Elizabeth Wells, was admitted with hysteria, and was rapidly progressing to health, when she received an unkind letter from her father. The injurious influence of the depression of mind, occasioned by this letter, was most striking, and next morning the head was attacked with erysipelas. She was treated nearly in the same manner as Sedgwick, and is now nearly well. These, and several other cases of erysipelas, upon the details of which it is unnecessary to enter, are instructive in displaying the occasional causes of the disease, and also its influence, not only upon the tissues affected with the eruption, but upon the general system. I mention this, Gentlemen, to put you in possession of my opinion, that erysipelas is not to be regarded as a simple inflammatory affection; but that, like the exanthemata, the state of the skin is symptomatic of the fever. It has been said that the degree of fever is always in the ratio of the cutaneous affection; but this remark requires more minute observation than has hitherto been given to the subject, for its confirmation. The local symptoms are often acute when the powers of the system are feeble: and the fever assuming the typhoid type, is no proof that the latter depends upon the former: for we find erysipelas of an acute form, occurring in the most enfeebled and worn-out habits. The erratic character of the disease was well displayed in Lewis's case, in whom it spread from the left foot upwards to the loins, then crossed to the opposite side, and extended downwards to the right foot; at the same time a detached spot appeared upon the mamma. The disease, in this case, was evidently that species which has been termed *phlegmonous*, which commonly produces suppuration of the subcutaneous tissues. I am of opinion that all the species of erysipelas mentioned by nosologists differ only in degree, and depend solely upon the condition of the habit of the patient at the time of the attack. In Sedgwick's case the left ear became affected by the eruption spreading from the face: both helix and antihelix were swelled to a great degree, and covered with vesicles; the diameter of the meatus was consequently diminished, and a thin, dirty-looking fluid was discharged from it, most probably the result of the excitement of the secreting glands. As is usual, this condition of the left gradually extended to the right ear. I have never seen permanent deafness result from this affection of the meatus. One of the earlier cases, to which I have not adverted, namely, that of Eliza Wilson, which was admitted on the 2nd of October last, and died on the 4th of the same month, was accompanied by that affection of the throat which is sometimes, although rarely, present

in erysipelas. The examination of the body displayed the cellular tissue of the neck infiltrated with serum and pus, and the tongue denuded of the epithelium near the root. On each side of the larynx, near the false vocal chords, there was an abscess, whilst the whole of the mucous membrane of the larynx and epiglottis was swelled and highly vascular; the rima glottidis was quite pervious.

In reference to the condition of the digestive organs—you must bear in remembrance that the appearance of the tongue is not always indicative of the condition of the alimentary canal. In Lewis's case, it is true, the tongue was brown when the diarrhœa commenced, but as soon as the sensorium was relieved it became clean, although the diarrhœa continued. In Sedgwick, the attack commenced with pain and throbbing of the head, with considerable cerebral disturbance; the tongue was brown in the centre, parched, and harsh, but as soon as the stupor, delirium, and other symptoms indicating the brain to be affected abated, it improved and became clean, immediately after the habit was brought under the mercurial influence.

This connection of the condition of the tongue with that of the brain is not, however, peculiar to erysipelas; it occurs in almost every case of continued fever attended with typhoid symptoms. In Eliza Wilson the tongue, as I have already remarked, was much swollen, and the bowels were costive, whilst the delirium, that of the low muttering kind, was considerable.

The respiratory organs and the heart are also occasionally affected in erysipelas. In one case, that of Susan Knight, who was admitted on the 27th of September last, and rapidly recovered, there was pain at the region of the heart, and a bellows-sound. The *after-death* examination of Eliza Wilson, also displayed that the heart had suffered severely. The endocard of the left ventricle was opaque to some extent below the aorta, and was covered with a false membrane, which readily peeled off, leaving the serous covering on the muscular tissue. A similar membrane covered the aortic valves. In Lewis's case, the pulse was at first firm and incompressible, but as the disease advanced it became irregular and intermittent. I believe that experience has completely established the fact, that erysipelas is contagious, but whether the assertion of Willan, that the lymph in the vesications, when introduced by inoculation, into the system of a person otherwise healthy, will produce the disease, I have had no opportunity of ascertaining.

With regard to the diagnosis of erysipelas, among other diseases with which erysipelas may be confounded, is eczema mercuriale; but in this disease the surface of the body is more generally affected than in erysipelas, and the vesicles, which are very minute, do not appear until after desquamation. The eruption in erythema is a simple redness, an efflorescence devoid of swelling and vesication, and is seldom attended with fever. From roseola erysipelas can with difficulty be distinguished in its early stage. In roseola, however, the eruption first displays itself, at the same time, at all the extreme points of the body, namely, the fingers, toes, the tip of the nose, the nipples, and passes on to the trunk of the body. There is no difficulty in distinguishing erysipelas, after it is fully formed, from all other eruptions, by the uniform swelling, the burning pain, the erratic tendency of the eruption, the vesications; and, in the phlegmonous variety of the disease, by the suppuration and sloughing of the cellular tissue. In reflecting upon the treatment pursued in the cases which you have seen in this hospital, you will perceive that it has been less antiphlogistic than is usual, even setting age, temperament, and constitution altogether aside. The type of the fever and its degree have been the chief guides in this respect, without much reference to the intensity of the erysipelatous inflammation of the surface. In simple erysipelas, little is required except rest, mild aperients, and a cooling diet; but in the phlegmonous variety of the disease bloodletting has generally been thought to be indispensable; and if the face and head be the parts chiefly affected, the bleedings, we are told, should be copious and repeated; and, at the same time, local abstractions of blood should be obtained by scarifications of the affected parts. It is true that this active depleting practice is usually confined to the early stage of the disease; but I am of opinion that there is no necessity for the repeated use of the lancet; and in no disease does it become more imperative to husband the strength of the patient than in erysipelas. In one only of the cases before us was venesection employed. Besides scarifying the affected limb freely, Lewis was bled to the extent of sixteen ounces, on the third day of her admission. The blood was much buffed, and, on the following day, the pulse continued firm, incompressible, and 120. She was not, however, bled again, as I am more disposed to trust to the influence of calomel and tartar emetic than to the lancet for reducing excitement in this disease. One grain of calomel and half a grain of tartar emetic were ordered to be given every sixth hour; and a mixture of ten grains of nitrate of potassa, ten grains of the carbonate of potassa, and two ounces of camphor mixture, to be taken in the intervals; but, as the antimonial purged the patient, this plan could not be continued.

With regard to the general employment of the lancet in erysipelas, notwithstanding its success in the hands of some eminent

practitioners, I am not disposed to recommend it to you, unless the habit of the patient display such a phlogistic diathesis as would authorise repeated venesection in any other inflammatory affection. In this hospital, numerous instances have presented themselves to demonstrate the superior advantage of following a single bleeding with calomel and tartar emetic, to the repeated use of the lancet. Tartar emetic, administered alone, has not produced those beneficial effects in erysipelas which follow its employment after bleeding in pulmonary affections; and, when it is administered in large doses, it has proved rather hurtful than beneficial; whilst, in small doses, in combination with calomel, when the bowels are not in a very irritable condition, it aids greatly the action of the calomel in diminishing the inflammatory symptoms. These opposite effects of tartar emetic, in large and in small doses; and when administered alone, and combined with calomel, are readily understood, if the view of the action of tartar emetic which I have frequently presented to you in this place, be admitted—namely, that in large doses it is not absorbed, but acts upon the mucous membrane as a counter-irritant. If this opinion be correct, it is evident that, as the sympathy between the mucous membrane and the skin is considerable, erythematic inflammation set up in the former would not be likely to benefit an erysipelatous condition of the latter. In confirmation of this opinion I may quote the observation of Broussais, that besides the pulmonary and cerebral congestion which erysipelas of the head and face in particular induces, it also "causes very intense *gastro-enterite*." How far a repetition of the venesection would have checked the progress of the disease in Lewis's case, I shall not pretend to say, but I was restrained from resorting to it, owing to the great debility which was present. On the fourth day afterwards, also, the inflammation was much reduced, and no vesications remained, although the eruption continued to extend, as I have already stated. Another reason for not repeating the venesection was the extremely irritable state of the surface which supervened, accompanied by much tremulousness of the tongue, when it was protruded. In the treatment of erysipelas of the head, many practitioners employ the cinchona bark after the use of purgatives and diaphoretics. Others, again, prescribe the bark only when the gangrenous form of the disease is present. Having early adopted the use of the cinchona bark, whether gangrenous symptoms were or were not present, if the head was affected with erysipelas *œdematodes*, without probably reflecting upon the reasons for its employment, I have continued it ever since, and I have had much cause to be satisfied with its effects. I have, however, for some years past, conjoined the bark with mercurials; and in almost every case, as soon as the mouth has become sensibly affected, the symptoms have rapidly yielded. I was induced to adopt this practice from having seen the powerful influence of mercurials in arresting the symptoms of typhus; and also from having witnessed its influence in giving energy to the cinchona bark and its salts, in the treatment of intermittents. In Sedgwick's case the influence of the mercurial action was strikingly demonstrated; as soon as the mouth became tender, the improvement was almost immediate.

Although we have no other means of judging of the constitutional influence of the calomel than by the sensibility of the gums, yet it is by no means necessary to carry the mercurial action to the extent of salivation. The intervals between the doses should be lengthened, or the dose itself diminished. When this caution is neglected, the stomach and bowels become deranged, and the improvement, instead of advancing, is arrested, if bad symptoms do not supervene.

With respect to topical applications, you will find none so serviceable as the solution of the nitrate of silver, in the proportions already stated, when it is painted over the inflamed surface. It rapidly allays the superficial inflammation, whilst its influence, extending generally to the capillaries, restores their normal action; and, if anything can prevent suppuration of the subcutaneous cellular tissue, the nitrate thus used is most likely to effect so desirable an object.

CASE OF

CATALEPSY USHERING IN MANIA DURING PREGNANCY,

WITH REMARKS.

By MARTIN H. LYNCH, *M.D., Newcastle-upon-Tyne.*

MRS. W., of Newcastle, the wife of an artizan, aged 36 years, now in the eighth month of pregnancy, is the subject of this case. Her father and other members of her family had been affected with insanity. Her habits have been regular, she has never suffered from want or anxiety, and has generally enjoyed good health. Her temperament may be designated as sanguineo-nervous; her hair is fair, her cheeks high-coloured, but hollow; she has never had convulsions during childhood, nor has she been attacked at a later period by any of the forms of hysteria, by epilepsy, or by mania. For some time before and since the commencement of pregnancy she had occasional vomiting, and laboured at the same time under dyspeptic symptoms. A few weeks since she was attacked with diarrhœa, which

continued for a considerable time and induced great debility; her evacuations were extremely offensive in smell, and otherwise unhealthy. Having at last placed herself under the care of Mr. W. Dawson, surgeon, of this town, she was judiciously treated by alteratives, tonics, &c., under the influence of which the diarrhœa soon ceased, and she gradually became stronger. On the 19th of May last I first saw her, along with Mr. Dawson, and entered the following report.

At seven o'clock this morning she arose in good health, but soon afterwards, whilst engaged in her domestic concerns, she suddenly complained of pain and a sense of oppression in the epigastrium, and before half a minute had elapsed, she was observed to be speechless, and permanently fixed in one posture; she continued in the same state up to the present moment.

Present state (half-past 9, P.M.)—On being raised in bed remains fixed at any angle, even in such as it would be very difficult for a robust person to maintain himself at; the upper and lower extremities exhibit the cataleptic rigidity, but it is much more marked in the upper; the muscles, flexors and extensors, are hard and prominent; it requires considerable force to alter the degree of flexion of the limbs, which retain any angle to which they are bent; the countenance exhibits an unvarying expression, which may be compared to a bland smile of peculiar character; eyes open, but vacant for the most part, but not always fixed; conjunctiva free from vascularity or suffusion; on being spoken to in a loud voice, she sometimes turns her eyes towards the speaker, but without any expression of intelligence, her head and neck remaining fixed; when the skin is pinched, she does not betray consciousness by her countenance or by wincing; nevertheless, when pressure is made upon the epigastrium she endeavours to push away my hand with her left hand, but the motion is embarrassed and proceeds from the shoulder, whilst the elbow and wrist remain fixed; the left fore-arm is as insensible to pinching as other parts of the body; jaws firmly closed, but can be opened by using very considerable force, and then any liquid poured into the pharynx is readily swallowed; she puts out her tongue if ordered to do so in a loud voice, whilst her lower jaw is maintained depressed; pupils contract on the approach of light; pulse 72, soft and regular; respiration 22, tranquil; impulse of heart natural; epigastric uneasiness extends to the region of the heart, for she endeavours to push away the stethoscope when it is applied there; bowels confined for two days; pulse raised to 90 during the examination. Head to be shaved; cold lotions afterwards; cupping to viii oz. from the neck; turpentine enema immediately; *infus. of valerian*, 1½ oz., every fourth hour; *mercury and chalk*, iv. grains, every fifth hour.

Prognosis.—The friends were informed in reply to their inquiries, that the patient would probably recover from the catalepsy, which would be characterised by *intermissions*, but that we feared the occurrence of mania after delivery.

20 and 21. Cataleptic state continues present *without any intermissions;* muscular rigidity more easily overcome on the morning of the 21st; the eyes have not closed for a moment; bowels have been freely moved; urine is reported to have been passed with the stools; there is no fulness in the pubic region; the pulse is full and has risen to 90, but on the 21st, in the forenoon, was 72. Medicines continued, and in consequence of the vascular excitement ten leeches ordered to be applied behind the ears on the 20th; when the vascular excitement yielded, a blister was applied to the occiput.

21, 3 o'clock, P.M. Pulse 72, feeble; conjunctiva free from injection; skin cool; scalp cool; cataleptic rigidity still present, but muscles are not so firmly contracted; bowels not free since yesterday afternoon. She was ordered quinine, and her bowels to be freed by the enema domesticum.

21, 9 o'clock, P.M. I am informed that between five and six o'clock she recovered the power of speech and voluntary motion, but spoke incoherently at first, that after a little time she became quite rational, conversing upon her affairs, but having no recollection of what occurred during the seizure; she then became again incoherent. *Present state.*—An expression of anxiety and fear has replaced the peculiar smile that was observed during the seizure; continued and incoherent talking in a low and melancholy tone; pulse 76, feeble; skin cool; for some time it was hoped that her incoherence was of an hysterical nature, but we were soon undeceived by the suspicious eye, the dread of conspiracy, &c. The quinine was omitted; we recommended the bowels to be opened daily, and that she should adhere to the antiphlogistic regimen.

On the 25th she was safely delivered of a healthy child, under the care of Mr. Dawson; the insanity still continued; the pulse ranged from 72 to 86, and had been always feeble. After some time she was admitted into the Bath-lane Lunatic Asylum, my attendance having ceased before her accouchement.

Mr. Mackintosh, the resident medical officer of the asylum, had the goodness to favour me with the following account of the progress and termination of the case.

Mary Wilson, æt. 34, admitted into the Newcastle Lunatic Asylum on 19th June, 1838, reported to be labouring under puerperal mania. She was pale and feeble on admission, but her health was tolerably good; her milk was troublesome, and was

suppressed by purgatives; her insanity was continued melancholy, the prominent feature of which was fear, arising from imagined conspiracy; she was excited, but not violent, and never rational; she could not be persuaded to occupy herself with needlework, &c., and her sole occupation was talking unremittingly to every one on the absorbing subject of her difficulties, and the mischievous persons who had brought her into trouble. During the whole period of her residence in the asylum she was fed at every meal, she had no apparent motive for refusing food. Where great mental abstraction exists, food administered against the will rarely nourishes; she lost flesh; had stimulating diet; diarrhœa supervened, which was treated in the usual way, and terminated fatally by exhaustion on the 26th July, the period of her confinement in the asylum being five weeks and three days. There was no post-mortem examination.

REMARKS.

The most contradictory assertions are made by authors with regard to the characters of *true* catalepsy, and the frequency of its occurrence. The most eminent British physicians believe that it is an extremely rare disease in these islands; on the other hand, it is considered on the Continent as by no means so uncommon. Can these conflicting statements be accounted for? I think they can. The French and Germans call by the name of catalepsy certain seizures, which the English look upon as hysterical; it is not, therefore, surprising that the former should lay down that the disease is of frequent occurrence. Joseph Frank, however, must be excepted from the continental writers who hold this opinion,—he does not confound cataleptic hysteria with catalepsy unconnected with hysteria.

Catalepsy has been divided into two species, 1st, The perfect catalepsy, distinguished by total inactivity of the senses; 2ndly, The imperfect, distinguished by partial activity of the senses.

A far more useful division, however, of cataleptic attacks than that into perfect and imperfect, is the following, viz.:—

1st class, containing the cases connected with hysterical diathesis.

2nd class, containing those cases unconnected with the hysterical diathesis. The second class may be subdivided into two orders.

1st. Those that are complicated with other nervous diseases, such as mania, &c.

2ndly. Those which are not complicated (at least manifestly) with any other nervous disorder.

Cases of the first class are almost always imperfect, or, in other words, are characterised by partial activity of the senses. They generally are marked by numerous paroxysms per diem. Cases of the second class are sometimes perfect and sometimes imperfect; it is not correct to say (with most British writers) that imperfect cases are always of an hysterical origin. A case related by Dr. Lubbock, and quoted in the "Dictionary of Practical Medicine," although imperfect, was in no way connected with the hysterical diathesis. The case of Mrs. W——n is precisely similar. So was (at least in the commencement) a case mentioned in the work of Dr. Burrows on Insanity.

The division suggested above is useful in a practical point of view, by assisting in forming the diagnosis and fixing the treatment. In class No. 1 the prognosis should be favourable, and the treatment of hysteria should be adopted. In class No. 2 the prognosis should be very guarded, as many of these cases prove fatal either during the paroxysm (a case quoted by J. Frank, from Lonceerus), or by the supervention of some other disease of the nervous system, as mania, convulsions, or even apoplexy. The treatment usually recommended in cases unconnected with hysteria, is simply antiphlogistic, leeches, cold to the head, brisk purging, &c.; nevertheless, I believe that some cases may be benefitted by a very different management.

Mrs. W——n exhibited, for a very short time only, symptoms of vascular excitement with determination to the head; these symptoms were quickly subdued by a few leeches, &c. Except during this temporary excitement, her pulse was feeble, and of the natural frequency, the action of her heart natural, her eyes free from injection. Should I again meet with such a case I should be inclined to dismiss my respect for authority, and exhibit wine in moderate quantity, with full doses of opium, adding purgatives and alterative doses of mercury. The state of the circulation and of the system generally being somewhat similar to what is observed in asthenic delirium tremens, such treatment might be followed by favourable results,—by the resolution of the muscular rigidity, the induction of sleep and the prevention of mania.

Should we not consider Mrs. W——n as presenting, during the seizure, that state of vigilia which so often precedes mania? Her eyes never closed, and it seems to me that her mind, almost wholly abstracted from what passed around, was engaged in reveries connected with the subject of her subsequent maniacal delirium. It is remarkable that, notwithstanding the rigidity and loss of muscular power in the trunk and extremities, there remained voluntary power over the muscles of the tongue. The act of deglutition was nothing more than an exercise of the excito-motory function of the true spinal system.

Except in the case before alluded to, as related in the work of Burrows, the cataleptic paroxysm has not been known to con-

tinue for more than eighteen hours. Mrs. W——n remained in the paroxysm 59 hours without any *intermission*.

Notwithstanding the partial existence of perception and voluntary power, Mrs. W——n had no recollection of what passed during the paroxysm. May this be attributed to mental abstraction produced by deep and morbid reverie?

The above-mentioned instance, quoted from Burrows, occurred *during* insanity, in a female 22 years old; the same author related two similar cases in males.

I know of only one other instance besides that of Mrs. W——n, in which catalepsy was the *forerunner* of mania; it is quoted by Joseph Frank, from Marcellus Donatus:—"The patient was a man aged 80, in whom the disease was produced by the remorse and terror inspired by a sermon; he was seized at the church-door; the paroxysm lasted a quarter of an hour; on recovery he remained for some days dejected, when mania broke out. Being submitted to treatment, he recovered in a fortnight." No further particulars are given.

CURE OF TIC DOULOUREUX BY STEAM.

To the Editor of THE LANCET.

SIR:—Having been much employed for nearly two years past in the application of simple and medicated vapour to the cure of local diseases, by means of an apparatus by which the vapour is applied to the *part affected alone*, and having succeeded to my most sanguine expectations, I have been induced to try its effects in some diseases of a different character, in which I have also been successful. The following case affords an instance in illustration. I remain, Sir, &c.

W. BAIRD, Surgeon.

1, Kingsland-road, Jan. 16, 1839.

Mrs. S., aged 23, of a peculiarly delicate constitution and fragile appearance, sent, on the evening of the 9th of November, requesting me to visit her immediately. Upon arriving at her house, I found her suffering from most excruciating pain in the left side of the face, but chiefly in the gums of the lower jaw, and most severe on the right side. The face was somewhat flushed, the gums were hot, red, and slightly swollen, and the pulse was increased in frequency. The pain had come on at 3, P.M., and, with slight remissions, had continued up to the hour when I saw her; the tongue was pretty clean, but showed evident marks of a dyspeptic habit; and there was excessive tenderness in the epigastrium. Mrs. S. has suffered much from ill-health for some years, and upon inquiry I found that the extreme tenderness of the epigastric region had existed for years, but had apparently never been made the object of medical treatment. When young at school she had been dreadfully frightened by a trick of some of her schoolfellows, which threw her at the time into convulsions, and rendered her insensible for some days. Since then she has almost always been what is called nervous, suffering, especially for some years past, from a sense of sinking at the epigastrium, with great tenderness there, and frequent flutterings, while any sudden noise would make her start, and throw her into a general tremor. She has not been able to go up at night alone to the top rooms of the house, from sheer involuntary terror, and she frequently awakes in sudden frights. In the course of treatment for her previous disorders, under the able care of two or three medical men of some repute, she had taken considerable quantities of mercury, which, from her statement, never agreed with her, and to which she attributes the decay of her three middle molar teeth, on both sides of both upper and lower jaws. In the beginning of October she began to suffer pain in the jaws, which she attributed to this state of her teeth, and for which she had various applications from several dentists, as well as from myself, but without any good effect, even of a temporary nature; the only thing which ever seemed to give relief being the abstraction of a little blood from the gums by the lancet.

On the 1st of November she applied to me in the evening, complaining of acute pain in the left eye, coming in sudden severe shoots, with slight remissions; the pain commenced at about 3, P.M., and extended all round the eye, which was very intolerant of light; it was attended with some heat of skin and a very slight tumefaction. Leeches were applied, and hot fomentations were used, but with little or no effect; the pain, however, ceased during the night, apparently of itself, but returned next afternoon, with equal severity. Leeches and fomentations were again resorted to, without success, but the pain yielded speedily to a lotion composed of sulphate of zinc and acetate of lead, and did not return. She remained pretty free from complaints from this time until the 9th of November, when I was sent for, and found her suffering as above described; her gums were freely scarified by the lancet, which gave relief very soon to the agonising pain she had endured for some hours, and she had then an anodyne draught prescribed for her, to be taken immediately.

Upon visiting her next morning, 10th Nov., I found her much better, but not altogether free from pain. As it was now a decided case of neuralgia, I commenced treating her with sulphate of quinine and carbonate of iron. The paroxysm returned, however, at the same time as yesterday (3, P.M.),

and with equal severity; but was relieved by applying two leeches to the gums of the right side.

From this date until the 15th the paroxysms returned regularly at 3, P.M. The pain was intense. During its continuance she could scarcely be held still, and the face became flushed, and the gums hot and swollen. The paroxysms frequently terminated in fits of insensibility, which sometimes lasted for an hour and a half, ceasing of their own accord, with a remission of pain. Decided relief, however, was never felt until after the application of leeches to the gums. During this time she had large doses of carbonate of iron, sulphate of quinine, hydrocyanic acid, and opiates. Laxative medicines were administered, and ice was applied to the face when the pain was severe. The carbonate of iron could not, however, be retained on the stomach, severe vomiting being produced almost immediately after taking it. The sulphate of quinine seemed to produce irritation in the stomach, the tongue becoming somewhat furred, and studded all over with small, red, raised points. The hydrocyanic acid seemed to have no effect, and the opiates produced such disagreeable symptoms that she could not be induced to repeat them, whilst the application of the ice was attended with no relief. The pain of the epigastrium, and over the upper part of the abdomen, in the meantime increased in severity, the weight of the bed-clothes being more than she could endure. The appetite failed, and great debility was induced, the patient being unable to rise from bed.

Considering the seat of disease to be in the inflamed state of the stomach and large ganglia of that region, I resolved to attack it in its strong hold; accordingly, on the 15th, I applied half-a-dozen leeches to the epigastrium, followed up by hot fomentations. They were employed about the usual time of the accession of the paroxysm, and produced considerable relief, the patient feeling, to use her own expression, as if they drew the pain downwards, from the mouth to the epigastrium. The pain, however, was not decidedly relieved until two leeches had been applied to the gums. The *weight* of the hot flannels used in the fomentation was, however, more than she could bear upon the tender stomach, and formed a great objection to their use. On the 16th, therefore, after the application of leeches again to the epigastrium, I directed a stream of hot vapour to the region of the stomach and upper part of the abdomen, by means of an apparatus which I had constructed, so as to be adapted to that part of the body, and which was thus applied while the patient lay in bed. During the time the vapour was applied, which was for nearly two hours, *she remained perfectly free from pain*, and, though the paroxysm came on after it was discontinued, still it was less severe than it had hitherto been. All medicines were discontinued, excepting gentle aperients and small doses of quinine, which in two days afterwards I omitted altogether, and prescribed the hydrocyanic acid in its stead.

On the 18th she had a fit of insensibility, which lasted, with intervals of incoherent raving, for upwards of three hours; and during the night she felt the right mamma become affected with the same neuralgic pain as the face. The pain now altogether began to change its character, becoming less severe, with longer remissions, and affecting the head and neck as well as the right mamma.

On the 19th the paroxysm did not return until 7, P.M.; and on the 23rd it was still further delayed until 11, P.M., but then came on with great severity. During this time the *steam* was applied regularly every day, at 3, P.M., and continued for an hour and a half or two hours. It was generally preceded by the application of a few leeches.

On the 25th she had no recurrence at all of the same paroxysm, though she complained of considerable aching pain all along the upper right jaw, but the pain of the mamma had totally disappeared. The steam was continued until the 1st of December, the patient gradually recovering. It was then intermitted, and as at the same time she exhibited some symptoms of the effects of the hydrocyanic acid, that was discontinued also, and the liquor arsenicalis used in its stead. Attention was paid to the bowels, and a rigid diet prescribed. This, however, was a difficult matter to enforce, and a continuance of aching pain in the jaws and epigastrium, after the steam was left off, was clearly attributable to her errors in this respect.

On the 6th of December she was nearly entirely free from pain; the appetite was moderate; bowels regular, and tongue tolerably clean, and of good appearance. The liq. arsen. was now intermitted, and a course of quinine commenced.

On the 7th she remained entirely free from pain, and on the 8th she was able to go out (though without permission) and walk a considerable distance.

A few days after this, having, during that time, remained free from pain, she was seized with symptoms of severe cold and pains of the limbs, with feverishness, &c. These abated with the assistance of a little medicine, but on the 14th the pain attacked the forearm of the right side, about two or three inches above the end of the radius, and extended to the elbow and shoulder. It came on at about 4, P.M., and lasted all the evening. On the 15th it again commenced at about 4, P.M., and in the evening she had leeches and fomentations

applied, but with no great relief. The pain, though considerable, was not nearly so severe as that of the jaw and face, but possessed the same character.

On the evening of the 18th, the pain having continued regularly to return every day, at about the same hour, and leeches and fomentations, with sulphate of quinine, seeming to be of little use, I subjected the arm affected to a local steam-bath, with great and decided relief. The pain ceased soon after the steam was applied, and did not return during the evening.

On the 19th the paroxysm returned at the usual hour, but was not nearly so severe.

On the 20th the steam was again applied with the happiest effects, and she has since that time continued free from complaints.

REMARKS ON APOPLEXY,

AND ON

CONCUSSION OF THE BRAIN;

IN ALLUSION TO CERTAIN POPULAR MODES OF TREATMENT IN OTHER COUNTRIES.

To the Editor of THE LANCET.

SIR:—Permit me to offer a few remarks on the treatment of apoplexy, a disease of very common occurrence at this time of the year, especially in persons debilitated by previous illness.

The idea generally entertained by the profession is, that the disease is induced by effusion, or by a surcharge of blood on the brain; and this idea I believe very frequently leads to an improper, and sometimes fatal use of the lancet, without regard to the habit of the patient, or to his previous state of health. The most experienced physicians, however, will I presume agree, that apoplexy does not always depend on congestion, or engorgement of the brain; and even were it so, abstraction of blood is not the means of giving relief to a patient who is already reduced below the standard of health. Moreover, a pathological fact should be kept in mind, namely, that apoplexy is frequently connected with organic disease of the heart, when this organ is unable to propel the blood with wonted celerity to the brain; for disease in any part of the body is ever attended with diminished power in such part.

Practitioners of much experience will seldom resort to bleeding in cases of apoplexy when arising from atonic or retrocessent gout,—an occurrence but too common and fatal (especially after the free use of bitters and narcotics); and this consideration, I think, tends to confirm what has just been remarked as to the impropriety of instantly drawing blood for the relief of apoplexy, in persons weakened by other disorders.

It is, I am aware, the common practice of the most judicious physicians to direct bleeding for this complaint: but this, I am disposed to think, is rather in compliance with the tyrant *custom*, and to prevent the cavils which might probably be raised against its omission (in cases bearing the semblance of apoplexy) rather than from a conviction of its actual necessity. In persons labouring under debility, and a delicate state of the nervous system, great caution should be used; in such cases topical bleeding alone can be deemed admissible.

In some parts of North America a practice has been adopted on a plan very different from the usual routine; and this has been carried into effect in cases of apoplexy and epilepsy, and similar affections of the genus *nervosum*. The remedy is, the application of frictions with spirits and hot vinegar, and an infusion of valerian and aconite taken internally; the latter, of course, in small doses. This method, it appears, has been attended with the desired success: but, to break the catenation of the fits, an alternate affusion of warm and cold water has, I have been informed, been occasionally resorted to with very great advantage.

In concussions and contusions from falls, &c., I have observed the best results from the popular treatment adopted among the Spaniards; and am told that the like mode of treatment is observed throughout the great empire of China, and some other eastern countries; this mode of treatment is, instead of bleeding, to administer stimuli and cordials as soon as possible after internal injuries are received. A liberal draught of rum, gin, brandy, wine, or other spirituous liquor, is the first thing resorted to. Such a practice, however incompatible with the views of our practitioners, should not be altogether despised, resulting as it does from long-tried experience.

A similar practice, it is said, prevails in Persia, where they refrain from bleeding immediately after internal bruises, unless the patient be of a plethoric habit. In the Highlands of Scotland, I am told, whiskey is given for similar accidents: and also in measles and small-pox, to facilitate the eruption; and no doubt the practice must be very beneficial in a debilitated or depressed state of the system. Such practice, too, it may be observed, is very much in accordance with the rules of Hippocrates, who, in certain fevers, advised to wait, and to let blood on the second, fourth, or fifth day. By this method, in cases of internal bruises and concussions of the brain, the circulation is accelerated and restored in the injured part; the balsamic and invigorating influence of the blood tending to restore the tone of the fibres weakened by the shock. Accordingly, in *external* bruises, frictions answer a similar purpose, and act powerfully by exciting the absorbents, and preventing the ill effects of

stagnation, or deposits of blood and serum in the injured part. On the same principle, the old practice, now long forgotten, of giving opium in the commencement of pleurisy, proves, of all others, the most ready method of arresting the inflammation; it is, in most cases, infinitely preferable to instantly bleeding the patient; this I know from experience in my own person, as well as in others. At the same time, in actual plethora we should deplete, so as to set free the absorbent and capillary vessels, promoting the cutaneous transpiration and other secretions. In cholera and fevers the abstraction of blood is of use only when reaction has occurred; and the same is observable whenever we wish to lower excitement by the application of cold. Neither cold affusion nor bleeding, however, will be attended with benefit in the stage of depression or collapse.

In accordance with the foregoing remarks, I may here observe, that it is a notorious fact, and spoken of with surprise, that persons intoxicated, or actually under the full influence of alcoholic stimuli, are far less subject to receive injury from falls, contusions, &c., than those in the ordinary state. An instance of this occurred only a few days since; a gentleman of my acquaintance, after a free use of vinous potations, fell with extreme violence, his head coming in contact with a strong cast-iron fender, the latter being broken in the collision, without causing the least degree of injury in the head or body, or any subsequent soreness.

Alcoholic stimuli, then, by rousing the absorbents, and quickening the circulation, tend to prevent stagnation and congestions of blood and serous fluids; a fact exemplified, likewise, in cholera and agues. In such cases, the blood wanting its due stimulus, is driven by the muscular contractions of the heart and arteries into the great veins and internal viscera, which occasions the collapse or algid stage in these diseases. A glass or two of hot brandy and water, taken on first perceiving the symptoms, has frequently prevented the formation of cholera, and of agues, whether of the mild or more malignant species. Bleeding has been found, we are told, very fatal at the commencement, or in the cold stage of intermittents; and not unfrequently it may have been equally fatal in cholera. I think it probable, too, that a speedy resort to depletion has not unfrequently accelerated, or been the cause of death in apoplexy, whether traumatic, or the result of injuries causing concussion of the brain, or from other causes.

I observed a paragraph some short time since in an American paper, in which it was stated that a person reduced in strength by some previous illness, was suddenly attacked with lethargy or apoplexy; that he was immediately bled, but he still remained insensible, and expired in a few hours afterwards. This case may serve to illustrate what has been already said. A similar case occurred a few days since in this parish, in a woman between seventy and eighty years of age.

Equally, if not more pernicious, is the common officious practice of immediately raising up persons who fall down in fainting fits; which are mostly occasioned by a paucity of blood in the brain; for thus the blood, by its own gravity, descends to the extremities, and thus, no doubt, many persons are destroyed, who otherwise might recover, were they permitted to repose in a recumbent posture, to favour the return of the vital fluid to parts so essential to life, and to restore the general circulation. In such cases, if, instead of raising the head and trunk, the feet and legs be elevated, the patient will generally recover very speedily.

In conclusion, as to apoplexy, I cannot entirely agree with a remark in a very popular, and, indeed, scientific work, the "Physician's Vade Mecum," that, "as apoplexy depends on a determination of blood to the head, and generally on a plethoric habit, we should advise a total abstinence from animal food, and all vinous or fermented liquors; and that cupping the neck occasionally is a valuable prophylactic." In the same work I observe that M. Serres has cited numerous cases to prove that clots and effusions on the brain are the effects and not the causes of apoplexy. I remain, Sir, yours obediently,

JOHN HANCOCK, M.D.

Welbeck-street, Jan. 18, 1839.

NITRATE OF SILVER IN PURULENT OPHTHALMIA.

To the Editor of THE LANCET.

SIR:—Should the following cases of ophthalmia neonatorum and gonorrhœal ophthalmia, with the accompanying observations on the use of Mr. Guthrie's ointment in those diseases, be deemed worthy of insertion in your valuable periodical, I beg a place for them. I remain, yours, &c.,

HENRY OBRÉ, M.R.C.S.L, &c.

North London School of Medicine,

January 11, 1839.

Mary H., æt. one month; two days after birth was observed to have a discharge from both eyes, for which a lotion has been constantly applied, by order of a medical man, but with no benefit; the discharge is now (Dec. 22) of a thick purulent character and very profuse, the lids are much swollen, the child has not opened the eyes for the last fortnight; they were ordered to be syringed with warm water every hour or half-hour; the *black ointment*, made with *nitrate of silver*, gr. xij; *lead lotion*, gtt. x;

and *lard*, 3j.; to be applied to both eyes; and *castor oil*, 3ss; to be taken directly. 23rd. The discharge very much lessened, the cornea cannot be seen distinctly, but appears clear; the syringing and ointment to be repeated. 24th. Discharge decreasing. Cont. remed. 25th. Discharge has not appeared since yesterday; the eyes are quite open, and the cornea quite clear from nebula or ulceration. Nitrate of silver lotion in the proportion of ten grains to the ounce of water, to be dropped into the eyes. 26th. Discharged quite cured.

John W., æt. 22, has had gonorrhœa for the last three months, for which he has received medical treatment; on the 16th of October he was attacked by inflammation of the left eye; he is not aware of having applied the discharge from the urethra to the eye; on the 20th I first saw him, the conjunctivæ much inflamed and chemosed, of a pale red colour, discharging a large quantity of purulent matter; the cheek much excoriated from the discharge; the eye was well washed with warm water, and the black ointment applied. An emetic of *mag. sulph.*, 3ss.; *ant. tartratis*, gr. ij.; to be taken at bed-time. 21st. Eye much improved, discharge less, can bear a little light; the same treatment was continued daily until the 26th, when he was quite well.

My desire to bring the above cases forward is not with the object of recommending a new remedy, for I may almost say the certain cure of a disease which, if allowed to run its course even for a few hours in some cases, will terminate in the total destruction of the eye; but with a wish to make a treatment which was brought forward many years ago by Mr. Guthrie more generally known. Surgeons have objected to the use of the black ointment in purulent or gonorrhœal ophthalmia for two reasons: one, because it produces pain when applied to the inflamed conjunctivæ; the other, that they see no use in using a violent remedy when the disease may be checked by milder ones, and at the same time stating that they can wait a few days, and should the alum lotion and other such mild applications fail, they may have recourse to the severe. Now, these are two most absurd objections for trifling with the future happiness of any individual. In the first place, is it not better to put a stop to disease at once with a little pain, than allow it to linger on and terminate no one knows how? They might as well say that pain should not be produced by the knife in a case of strangulated hernia in which the pain has ceased from mortification. As for the second objection, they will not use ointment until the disease has existed some time. Now, every one knows, who has seen much ophthalmic practice, that purulent matter when allowed to remain in contact with the cornea, even a few hours, will produce the most severe disasters, sloughing, not only of the cornea, but the whole structure of the organ; it is not supposed that any remedy will cure the disease at this crisis, but the remedy should be applied in time to prevent those dreadful terminations. I remember some time since a surgeon in the country, after using lotions and blowing calomel into an eye affected with this disease for days ineffectually, stated that he was afraid to use Mr. Guthrie's ointment, because it produced such pain. If purulent ophthalmia be properly taken care of from the very commencement, and the eyes syringed with mild stimulants every quarter of an hour, I have no doubt but that the disease will be subdued; but how seldom do we find that the class of patients whose children are afflicted, will take due care? If they make an attempt, how few mothers, particularly of the lower orders, will open the child's palpebra and remove every particle of the poison? I have repeatedly stood by, and desired them to cleanse the infant's eye, when they have applied the remedy externally instead of internally. Of course the nitrate of silver ointment, like all other remedies, must occasionally fail, but I may safely say that nineteen of every twenty, will recover without nebula or any obstruction to vision. Before the ointment is applied the conjunctivæ should be well cleansed with warm water, when about the size (not as Mr. Houston in his edition of Mr. Little's work, page 51, states, the size of a pin's head) of a split pea of the unguent is to be applied with a camel's-hair brush, having been previously softened before the flame of a lamp, to the conjunctivæ, when friction is to be used externally to the lids, so as to diffuse it over the whole internal surface; having been allowed to remain five or ten minutes it is to be removed with warm water; should there be much inflammation and swelling of the lids a leech may be applied to the external angle of the eye. I have given the above directions, fearing that a great number of the cases in which the application has failed is in consequence of its improper application.

GANGRENOUS ULCERATION OF THE INTEGUMENTS.

CONDUCT OF A "PURE" TO A GENERAL PRACTITIONER.

To the Editor of THE LANCET.

SIR:—Your inserting the following case in the forthcoming Number of your valuable Journal will much oblige, Sir, your obedient servant,

G. B. WADSWORTH.

2, Great Marlborough-street.
Jan. 16, 1839.

On the 19th Dec. last, I was requested to attend Mrs. D., who was delivered of a fine healthy-looking child; both went on extremely well, to all appearances, until the 2nd of January, when the nurse, for the first time, called my attention to two rather extensive sloughs between the shoulders of the infant, a little larger than a crown each, very much resembling burns, or eschars from some caustic application, with very considerable inflammation around them; the child slept and took the breast extremely well. I prescribed a powder containing *mercury* and *chalk*, one grain; *rhubarb*, two grains, thrice a day, to act on the bowels, and ordered the application of a liniment, composed of chalk and olive oil, to the sores, and the inflamed surface around them to be bathed with Goulard water.

Jan. 3. Inflammation around the sloughs decreasing; sores much the same; bowels free; stools more healthy in appearance.

4. Inflammation subsiding; sores ceased to spread; and the child continues to suck and sleep well, never crying but when the sores are dressed.

6. The child's constitution does not seem to suffer; the inflammation round the sores nearly gone; rests and sucks freely. Persist in the use of the lotion and liniment.

8 and 9. Process of absorption beginning around the sloughs.

10. Sores seem much the same as yesterday. The child has been out yesterday and slept almost all night afterwards, and takes the breast freely.

11. The mother took the child to Dr. Roe of Hanover-square, who, on seeing it (she says) exclaimed, it was the most cruel case he had ever seen; inquired who had been in attendance, and was informed that I had. He then inquired who I was. She replied, "Mr. Russell's partner." "What, the gentleman who attended you in rheumatic fever?" "Yes," was the reply. "Well (said Dr. Roe), the child has been very improperly treated; what has been done has been very injurious, and no doubt has been the means of bringing it into this state. You must go home, take no notice of your medical attendant, apply a poultice to the sores, give the following medicine, and I will cure it for you:—

"*Iodine*, 1 grain;
Hydriod. of potass, 1 drachm;
Distilled water, 2 ounces. One drachm thrice a day.
Mercury and chalk, 2 grains;
Rhubarb, 2 grains. To be taken at night."

On Saturday morning my partner, Mr. Russell, called to see the child, as I was ill in bed, and, somewhat to his astonishment, found it had died at two o'clock that morning, and that the family was much exasperated against me, (fully believing what Dr. Roe told the mother); I therefore insisted on a post-mortem examination, which was made on Monday morning, in the presence of several eminent members of the profession; but I am sorry to say it did not throw any light on the subject, as there was no inflammation in the stomach or bowels, nor anything to account for death so suddenly, except that, on testing the contents of the stomach, traces of iodine were found. Previous to the examination of the body, we sent for the mother of the child, who gave the following account of it:—About an hour before she took it to Dr. Roe, it took upwards of a wineglassful of milk, and did not seem changed in any other respect; at 11 A.M. she gave it the first dose of the mixture, which produced almost immediate vomiting, followed by short and panting respiration, cold clammy perspiration, eyes sunk in the head, and, to use the words of its parents, was quite an altered child ever afterwards, refusing the breast and everything that was offered; but they thought that, perhaps, the medicine was working a wonderful cure[!]; *ergo*, gave a second dose at 5 P.M., and a third at ½ past 2 in the morning. It continued in that cold state until nine in the morning, when vomiting came on, followed immediately by death.

Now, Sir, it is not my intention to enter into a discussion as to the quantity of hydriod. of potass an infant three weeks old would bear; for, in the first place, I should not have ordered it at all under these circumstances, at that early age, and if I had, I certainly should not have ordered one-twelfth of the dose this infant took in one day, namely, nearly 12 grains of hydriod. of potass and one-sixth of a grain of iodine. Had I deemed it expedient to call an inquest on this child, I think it would have been a question for the serious consideration of the jury, whether the above dose was a proper one to be prescribed for an infant of three weeks; but of this question, and what the verdict of a jury would probably have been, I will leave the profession to judge. It appears that about three years ago, Mrs. D. went to consult Dr. Roe, accompanied by her mother, when she was recovering from an attack of acute rheumatism; she declares that he said she had been very improperly treated by my partner, Mr. Russell, which assertion left a very unfavourable impression on her mind, and, in fact, was the cause of her going to Dr. Roe on this occasion.

I am utterly ignorant of any cause which Dr. Roe can have had for attacking the character of either Mr. Russell or myself, I will make no comments, or express any opinion on his conduct, beyond inquiring of my professional brethren, whether it is justifiable on the part of a Fellow of the College of Physicians to make such an attack on a general practitioner who has been previously in attendance, without even knowing

the history of the case or what treatment had been adopted.

*** If Dr. Roe have acted in the way represented by Mr. Wadsworth, his conduct was highly reprehensible. A little union amongst general practitioners would, however, soon bring persons who act in the manner described by our correspondent, to their senses. Let them never be called in by the general practitioner, and self-interest will quickly compel them to abandon a line of conduct which is equally unworthy of honest men and members of a liberal profession.—Ed. L.

THERAPEUTIC QUALITIES OF PRUSSIC ACID.

To the Editor of The Lancet.

Sir:—The lamented death of Mrs. Maclean has called the attention of the public to the merits of hydrocyanic acid as a therapeutical agent, and many have already imbibed the idea that prussic acid is a most dangerous poison, and perfectly useless in the treatment of disease. The *Times* copied yesterday a long paragraph from the *Edinburgh Courant*, in which the writer observes, "It ought to be generally known that there are no diseases capable of being alleviated by prussic acid which may not be, with equal certainty, relieved by other and safer means. The patient, therefore, who uses it at his own risk, runs the most imminent hazard of his life; and the physician who prescribes it, *without the most cogent necessity*, does little *less than sport with the life of his patient*. The writer of these remarks has been twenty-two years in practice, during which period he has seen many thousand cases of all descriptions, and in all classes of society, and yet he has never once had occasion to prescribe prussic acid, having always accomplished the end he had in view by other means. He knows active practitioners, of still longer standing, who can make a similar statement; but he is *sorry to add that he knows much* YOUNGER MEN who employ it often and with *much too little caution*."

Now, Sir, the writer makes a grave charge against the members of our profession. Happy man! he has treated "many thousand cases of all descriptions, and has always accomplished the end he had in view." Others, however, have not exercised the same skill, do not possess exactly the same chest of simples, and, therefore, with "too little caution," make use, frequently, of this valuable medicine; and I, for one, shall continue to use it, even at the risk of being accused of "sporting with the lives of my patients." Without being able to boast of "twenty-two years experience," I may be allowed to mention the case of a young lady, who had for several days been unable to retain a particle of food upon her stomach; even fluids were immediately rejected; every means had been used by the medical gentleman who attended her, but in vain, and at his urgent request a physician was sent for. What was the remedy? R. *Hydrocy. acid*, two minims (*Scheele's*); *orange syrup*, thirty minims; *water*, one ounce; a draught every fourth or sixth hour; and I had the happiness of seeing my friend restored to health, the sickness ceasing after the exhibition of the second draught. Nor is this a solitary case; only last week I saw it given in a similar case, though not so violent, with the best effect.

It has, however, justly been remarked, that some test ought to be employed to ascertain the strength of the acid employed. In the last edition of the "Pharmacopœia Londinensis" we have the *acidum hydrocyanicum dilutum*, which differs in strength from the preparation commonly used under the name of "Scheele's," and, therefore, in a remedy so important, as well as so powerful, an uniformity of strength ought to be preserved. Hydrocyanic acid consists of,

1 Nitrogen	= 1 by	14	= 14
2 Carbon..	= 2 by	6	= 12
3 Hydrogen	= 1 by	1	= 1
			27

The strength of any solution of this acid may, according to Dr. Ure, be ascertained by adding to 100 grains of the hydrocyanic acid small quantities of the peroxide of mercury, in fine powder, until it ceases to be dissolved. The weight of the peroxide dissolved, divided by four, gives the quantity of real acid present. The rationale is this: the equivalent of peroxide of mercury, 216, happens to be just eight times that of prussic acid, 27; therefore, as the prussiate of mercury consists of two proportions of prussic acid to one of base, it is evident that the quantities of acid and of base in the salt are in the ratio of one to four.

Let us now examine the compounds of this acid.—*Laurel-water*: this is the distilled water of the leaves of a species of cherry, the prunus laurocerasus of Linnæus, a native of the coast of the Black Sea, although it is now very common in Europe, into which it was brought about the end of the sixteenth century. It belongs to the natural order, *amygdalaceæ*. The volatile oil residing in the leaves and kernels of the fruit is combined with hydrocyanic acid. The flowers, as well as the leaves, have the odour and taste of the bitter almond and the kernel of the peach, and communicate both, readily, to boiling milk, cream, diluted alcohol, and other substances, in which form they are used as condiments—very improperly, and by ignorant servants.

Oil of bitter almonds.—The seed yielding the greatest quantity of combined hydrocy-

anic acid, is the bitter almond,—the kernel of the fruit of the variety *amara* of the *amygdalus communis*, a tree which is a native of Barbary and Syria, but is now cultivated in Europe. The poisonous influence of the oil of bitter almonds was known so early as the time of Dioscorides, who states that it was employed for killing wolves, but it was not known until a German chemist, Bohm, ascertained the fact that this influence greatly depends on the presence of hydrocyanic acid. According to the experiments of MM. Henry and Plisson, the constituents of oil of bitter almonds are,

Carbon....74·40
Oxygen ..11·79
Nitrogen .. 5·97

The powerful and poisonous effects of bitter almonds, eaten in large quantities, were observable at a very early period. Besides influencing men, the volatile oil acts powerfully on quadrupeds, causing convulsions. The most remarkable instance of poisoning by laurel-water is that of Dr. Price, the alchemist, who, in 1782, poisoned himself with laurel-water a few days before repeating his experiment of converting mercury into gold. In cases of poisoning, it was remarked by Cullen as "a curious fact, that however instant its operation, no traces of inflammation were ever detected after death." But it was not until after hydrocyanic acid was ascertained by Bohm to be the active principle in laurel-water, that the cause of this was fully understood.

Strong hydrocyanic acid,—that is, in its anhydrous state, is a powerful poison. A drop of it injected into the vein of a large dog produces instant death,—quick in its effects as a flash of lightning, destroying the poor creature as quickly as a shock of the most powerful electrical battery; proving that it exerts its influence directly on the nervous sensibility, which it at once destroys, and not, as some have supposed, by being taken into the circulation. It affects all animals, from the worm to man. All who take it die; all are affected in the same manner; and even vegetables suffer in an equal degree. An instantaneous cessation of life takes place; yet the eyes remain open, appearing bright, animated, as though the vital spark had not for ever fled from its tenement of clay. Yet, on opening the body, the heart may be observed to pulsate; as Magendie has remarked "the animal may be dead with regard to its external functions, although still enjoying life through its nutritive faculties." I ought, however, to remark, that if the strong acid be employed, some difference takes place, the appearance of the eye, the extreme coldness caused by the evaporation rendering the cornea opaque when applied to it.

The public generally, however, are not aware that the medicinal acid differs from that fluid which is so justly dreaded, so justly regarded as a deadly poison. But are we, Sir, to give up the use of a remedy simply because, from its imprudent use, some few have fallen victims? Are we to abandon its exhibition because for "twenty-two years" a gentleman who will not "live and learn" has done without it? Are we no longer to use it because one of the most gifted of her sex has been cut off by it? We might just as well give up the use of opium and its preparations, which is equally dangerous in unskilful hands. The drunkard, according to the doctrines of some, may be allowed to end his brief career amid the ravings of delirium tremens, because for "twenty-two years" some one has never seen a case, or seen a simple case get well without it, by laying the head upon a hop-pillow, and taking three drops of tincture of hyoscyamus three times a day.

I need not appeal to the members of our profession for proofs of the efficacy of prussic acid, as an external application in *prurigo*, inveterate psoriasis, and several other skin diseases attended with severe itching. They are well aware of the comfort it affords to the sufferer by allaying the severe itching and tingling by which they are attended. In chronic catarrh abundant examples have been afforded of its efficacy,* which may be accounted for on the principle of allaying irritation, and thereby favouring a slower, and, consequently, a more healthy gastric secretion. At least such is the opinion of Dr. A. Todd Thomson, whose experience extends over a period of somewhat more than "twenty-two years." Dr. Elliotson has fully proved the advantages derived from the administration of this medicine in dyspepsia; and the relief which it affords in pyrosis (by allaying the irritability of the stomach) is too well known to require comment. "In hooping-cough," says Dr. Thomson, "I regard it as the sheet-anchor of the practitioner, and I do not think I am stretching my praise of it too far in affirming that few cases of this disease would prove fatal were the hydrocyanic acid early resorted to, and judiciously administered."

At the same time it must not be forgotten that it is a powerful remedy,—a medicine not to be played with; one which ought never to be taken except when prescribed by a medical man, and then the patient should never prepare the medicine himself; but of this I will say nothing. The fate of poor "L. E. L." speaks far more eloquently, far more conclusively, than any words which my pen can trace. I remain, Sir, your obedient servant,

J. C. Hall, M.R.C.S.L.

Kensington, Jan. 15, 1839.

* Further and decisive evidence of the efficacy of prussic acid in pulmonary affections will be found in another part of this Journal.—Ed. L.

OBJECTIONS TO HUMORAL PATHOLOGY.

By R. Stevens, *M.R.C.S., Kennington.*

In all the objections which have been made to M. Magendie's views about the action of carbonate of soda, certain necessary principles have been lost sight of; moreover, M. Magendie himself, throughout the whole of his experiments, is liable to the same charge in more important matters still.

When M. Magendie injects carbonate of soda into the veins of an animal whose solids and fluids are all in the *normal* condition, and organic lesion is the consequence, he is not on that account justified in inferring that carbonate of soda is an injurious drug; that it should not be used in a state of *disease*, where the fluids are in an *abnormal* condition; for this makes all the difference. It being administered as a remedy only where the fluids are in a state of abnormal acidity, which is, according to his own experiments, as injurious as abnormal alkalinity.

I have had a gentleman under my care for the last four or five years, who has been seen by many of the most eminent physicians and surgeons in London, with the lithic diathesis and deposit in the kidney, caused, as I believe it always is, by abnormal acidity of the stomach, which when taken into the system displaces urea from its chemical associations. He has taken alkalies in large quantities during the whole period, and knows well the necessity of abstaining from all acids; and so long as there is acidity to neutralise it is impossible for the alkalies to be injurious, whilst the acidity, if left alone, would soon prove fatal. I find a very general prejudice to the use, as well as to the abuse, of opium, as well as other remedies; but if a person be labouring under any local pain or irritation, and the doses be well adjusted, it will allay this without producing sleep, or confined bowels, or any other effect which the patient looks upon with prejudice.

Surely M. Magendie would not have us treat all diseases upon chemical principles; for the disease I have brought forward is only one of a class. Are the only data admitted into our reasoning to be those which we acquire by our sensual perception? If so, how limited our powers. But were the courses and distances of the planets ascertained by actual admeasurement, or by intellectual data worked out?

When typhoid exhaustion takes place at the finish of any inflammatory disease, M. Magendie would find the blood defibrinised and attenuated: but this is not a cause, but an effect. Would he deny the pre-existence of that which we call inflammatory excitement? For if so, he would from the first treat the disease with such remedies as increase the quantity of fibrine in the blood; in short, by tonics. (*Heu! miserabile.*)

In the 18th experiment, published in last week's Lancet, p. 572, does M. Magendie draw any inference as to the medicinal effect of emetic tartar from the consequences which followed the injection of a drachm of this salt into the veins of a dog? When he states that it is much used in pneumonia with a view to acting on the respiratory organs, and in rheumatism, and that some practitioners give it with quinine in certain intermittent fevers, he has named its *empirical* uses only; but if he draw the inference from his experiments, that it does not act, in small doses, as a direct sedative to the nervous, or functional power; that it does not allay excited action (cutting it short better and shorter than bloodletting, because there is no detraction of substance, no defibrinisation as he would call it, and consequently, a quick convalescence), we must dispute the point; and when he denies that there is such a thing as we call inflammation (for what else should we call it?) and directs his remedial intentions to the effects of inflammation alone, namely, defibrinisation and attenuation of the blood, he publishes dangerous doctrines, and the more so because such a name as his own is attached to them. Moreover, M. Magendie being ignorant of the scientific uses of this medicine (for I am justified in saying so), styles it a vaunted drug, and states that after a few weeks' trial of it (in such diseases as *he names*, I suppose), he ceased to use it altogether.

Also in the 9th experiment, where alum is added to blood, he states that "it is employed *under the impression* that it acts as a very powerful astringent, yet you see," says he, "that not a trace of coagulum is to be detected here." Does M. Magendie infer from this that alum is not an astringent? and that it should act on the fluids as an absorbent instead of on the tone of the solid vessels as an astringent? He states, for the same reason, that it is possible that sulphuric acid rather promotes the escape of blood from the vessels. (See Lancet, p. 542.) Does not a pledget of lint dipped in diluted sulphuric acid stop bleeding from the nose? M. Magendie should make his experiments on the solids as well as on the fluids, and not apply facts of one condition to results of another, which he does when he infers that sulphuric acid may increase hæmorrhage. A man of the highest order of intellect may be wrong sometimes. A friend of mine, a most accomplished mathematician, accounted for the buoyancy of steam by supposing it to consist of globules filled with hydrogen. Ignorant of the chemical principle that matter exists either as the solid, fluid, or gas, according to the quantity of caloric combined with it, he sought for a more physical cause,

Having mentioned the subject of typhoid exhaustion, some instruction can be obtained from Mr. Whitmore Clarke's report of a man who submitted himself to the bite of a rattlesnake for the cure of elephantiasis, which appeared in THE LANCET for the 15th of December ult.; but the treatment was not well adapted to oppose the effects produced upon the system, which were essentially an extravagant supply of nervous or functional power, causing arterial excitement, and augmentation of the secretions. From whatever cause this may take place, all the nutritious matter contained in the blood is quickly deposited, absorption being as active, with attenuation of the fluids and relaxation of the solids, constituting typhoid exhaustion.

In this man there was a full quick pulse, swelling, redness, numbness, tremor, delirium, copious perspiration and constant excretion of urine, salivation; and after five hours of such action, torpor and great prostration, discharges of sanguinolent fluid from the nose, and bloody urine. After fifteen hours, convulsions and sinking, and death in twenty-four, decomposition taking place immediately, showing how completely the vitality had been exhausted and used up.

Now, the effect of the venom was *excitement*, and the remedies administered were not sedatives but *stimulants;* wine and water, rum and water, infusion of guaiaco, with eau de luce. The tartar emetic, judiciously used, would have been the best remedy; for in this case, as in the early stage of typhus, small-pox, and other specific fevers, we cannot find a direct antidote to the poison causing these diseases, but we can very energetically oppose the effects produced upon the system, and so answer every purpose in a manner wonderful to those not acquainted with this method.

MECHANISM OF RESPIRATION.

To the Editor of THE LANCET.

SIR:—As I consider the paper of Mr. Goodman in THE LANCET of Dec. 29, on the important subject of the heart's action, to be open to some objections, permit me to make the following observations on it, by giving publicity to which you will much oblige, Sir, your obedient servant,

JOHN SNOW, M.R.C.S.

54, Frith-street, Soho,
Jan. 5, 1839.

After some preliminary observations, Mr. Goodman, speaking of the thorax, says,—"The outer walls, or bony arch, possess such strength of material, and peculiar convex form, that the pressure of the atmosphere, generally understood to be 15lbs. on every square inch of surface, is firmly and perfectly sustained by this mechanism, and the contained viscera are protected from its influence."

Now, the most delicate structures on the earth bear the pressure of the atmosphere without detriment, so long as it is equal in all directions; a distended bladder, and bubbles blown in soap and water, bear it, because it is equal inside and out; but this is not what Mr. G. means with respect to the thorax, for he says, "the contained viscera are protected from its influence," which they could not be unless the pressure were entirely on the outside. A thorax, 10 inches deep and 30 inches in circumference (not a very large one), has 300 square inches of surface, and would, in this case, have to resist a force of 4500lbs., or more than two tons; and, in addition, the diaphragm and the parts closing the top of the thorax, would have to resist half as much; this would require thick walls of cast iron instead of mere flesh and bone. The truth is, that with very slight variations the pressure on every part of the thoracic viscera is exactly the same as on the exterior of the chest. The walls of the thorax are moveable and elastic, and are exactly applied to the surface of the lungs in all their changes in size, and the atmosphere that presses on these walls presses them on the lungs; the atmospheric pressure also, on the walls of the abdomen, is communicated by means of the abdominal viscera and diaphragm, without the slightest diminution to the viscera of the thorax; and the atmosphere communicating with the interior of the lungs, balances, between the respirations, exactly the pressure outside; it makes no difference that the mouth and nostrils be closed, for the pressure of any given volume of air is precisely the same as that by which it has been compressed. The slight variations of which I have spoken are, that during inspiration the pressure in the interior of the chest is a little less, and during expiration a little more, than on the exterior; that this difference is very minute, I will prove at the end of this paper.

Immediately after the sentence I have quoted, Mr. Goodman continues:—"Not only does this protecting arch resist the force of external pressure, but it is also capable, to a certain extent, of expanding itself, and producing a partial vacuum within its parietes." The latter part of this sentence is not at variance with fact. Mr. G. continues,—"The diaphragm, or floor of this cavity, is also able to resist the power of atmospheric pressure, although of muscular construction." I need not comment on this, after what I have said above.

The experiment of removing the heart through an opening in the diaphragm, and then inflating the lungs, does not prove that the pericardium is capable of resisting any

degree of pressure, either from the lungs or the atmosphere, since, when the abdomen was opened, the diaphragm would descend to allow of the distention of the lungs with the greatest ease.

Mr. G. says there is, apparently, no increase in the volume of a muscle to account for its diminution in length; and that he means thickness, or circumference, by volume, and not the entire bulk, is evident from the application he makes of it. Now, he has only to place his hand over the biceps muscle, and contract it, to perceive the opposite of this; and on turning to page 211 of "Baly's Translation of Müller's Physiology," and seeing it there stated that "the primitive fibrils of the muscles of man are five or six times smaller than the red particles of his blood," Mr. G. will, I am sure, at once relinquish his "speculative conclusion, that the primitive muscular fibre is composed of an extremely minute cellular structure of, probably, globular cells, arranged longitudinally in its substance, and for the purpose of receiving and being distended by arterial blood," &c.

Further on we find it stated, that "either the anterior walls of the pericardium must give way, and follow the contraction of the ventricles, or a vacuum must take place betwixt the apex of the heart and the sternum it has now relinquished." Mr. Goodman must have derived this opinion from the speculative conclusion alluded to above, for all previous authors say that the apex of the heart is projected forward against the sternum during the contraction of the ventricles, and that this projection commences with the very beginning of the contraction is evident from the impulse being exactly synchronous with the first sound of the heart, which is caused by the contraction of the ventricles.

With respect to the ingenious experiments with the glass pericardium, it is necessary to observe, firstly, that if the thoracic viscera were defended from atmospheric pressure, as Mr. G. states, then the phenomena he exhibits could not take place, whatever were the structure of the pericardium, since it is by this pressure these phenomena are produced; and secondly, that with those viscera, situated as they are, no vacuum, partial or complete, could exist in the pericardium, unless it were as firm and unyielding as the glass vessel by which Mr. G. has represented it; whereas the pericardium, though a strong fibrous membrane, and capable of resisting solution of its continuity, is not able to retain any particular shape in opposition to any part of the pressure of the atmosphere, which is freely communicated through the diaphragm below and the lungs on each side, and must retain it as accurately applied to the surface of the heart during all its motions, as it keeps the sides of the thorax applied to the surface of the lungs; and the serous coat of the pericardium, reflected over the heart, must glide over the serous lining of the fibrous coat during these motions as freely as the pleura pulmonalis glides over the pleura costalis. Mr. Goodman says, that the impulse of the heart is caused by the pressure of the atmosphere forcing the blood into the auricles, and "causing its apex to strike the posterior surface of the sixth rib, in a similar manner that the piston of a condensing engine is, by the power of the steam, carried with terrific violence through the vacuitous portion of the cylinders."

If the theory of the pericardium given in the paper under consideration were correct, it would be almost impossible for the circulation to continue a moment after the pericardium became adherent all over the surface of the heart; yet Dr. Hope tells us that persons may live for some years after such is the case, and I have examined a heart that was firmly adherent everywhere to the pericardium, whilst the inflammation which caused this adhesion took place some months before the patient's death.

There is one tendency to a vacuum which does assist the circulation of the blood, and to which Mr. G. has not alluded. Dr. Williams tells us that the hand, grasping the heart of a donkey, cannot prevent the expansion of the ventricles when they are contracted; this active expansion, then, must remove, in part, the pressure of the atmosphere and cause the blood to be driven into the ventricles.

Mr. Goodman states that the ventricles propel the sanguineous fluid against the whole pressure of the atmosphere throughout the body, &c. Now, the ventricles could do no such thing; and that they have to do no such thing, is evident from what I have said about the thorax; except the deviation that respiration causes, the atmospheric pressure does not interfere, and during expiration the flow of arterial blood from the thorax is assisted and during inspiration retarded, and the extent of this deviation has been measured by M. Magendie, and is given in his lectures in a recent number of THE LANCET, where it is also seen that the force of the arterial current in dogs is generally equal to a column of from 70 to 100 millimetres of mercury, which is from three to four inches, or from one-tenth to one-eighth of the pressure of the atmosphere.

One of the conclusions at which Mr. G. arrives from his experiments is, "that there is no necessity at all for muscular fibre in the parietes of the auricles for facilitating or producing the action of the heart." But since anatomists tell us that muscular fibres exist there, we may fairly conclude that they perform some function; and most persons who have experimented on animals

have seen the auricles contract, and generally before the contractions of the ventricles.

As the remainder of the paper is principally occupied with conclusions from the parts on which I have already commented, I need offer no further remark on it.

It is strange that Müller, in his Physiology, attributes to Sir David Barry this very idea of a vacuum in the pericardium; and it is more strange that he seems to receive this idea and to concur in it. I give the passage from p. 234 of "Baly's Translation:"—"Sir David Barry has recently given a new turn to these inquiries, respecting the circulation in the veins. The heart, he says, when distended with blood, completely fills the pericardium; but when it contracts, it no longer occupies the same space, and a partial vacuum ensues. To enable the auricles to fill this vacuum, the blood rushes into them from the great venous trunks. But, Sir D. Barry attributes more importance to the effect of inspiration" &c. Now, Sir David Barry's experiments on the pericardium were instituted to show that the partial vacuum which exists in the thorax during inspiration, extends also to the pericardium, and not that there is any special vacuum in the pericardium caused by the contraction of the heart, and he found that when a tube was inserted into the pericardium of an animal, fluid was drawn up into that cavity during inspiration; and the only passage in his book that might lead to an idea that the contraction of the heart at all influences the result, is the following, at page 20:—"Although the fluid invariably halted, or descended, during expiration, there was an oscillation of the fluid upwards, which seemed independent of respiration, and could not be perceived during inspiration, because then it was confounded with the general motion of the liquid upwards. This third movement was acknowledged by my friend Mr. Bennett."

The real amount of variation that respiration causes in the atmospheric pressure, exerted on the thoracic viscera, I have ascertained by the following simple experiments:—By fitting a glass tube into one of the nostrils, leaving the other nostril open, and dipping the lower end of the tube into mercury, it is found that the mercury rises in the tube during inspiration a very little above its level on the outside, perhaps about a line, and sinks the same depth below its level during expiration; if the tube is dipped in water instead of mercury, the water rises and falls about an inch above and below the surface. If the other nostril be closed, and a powerful act of inspiration made, the tube being dipped in mercury, the mercury will be raised nearly two inches; if dipped in water, that fluid will be raised about two feet; during a powerful expiration the fluids are depressed an equal degree below their level. It is thus evident, that during natural respiration the variation in atmospheric pressure is about one 400th part of the whole pressure; and, in violent respiration, about one-15th of the whole pressure, or one pound on the square inch, can be alternately added to, and removed from, the equable pressure. On comparing MM. Magendie and Poiseuille's experiments on the large veins near the thorax in dogs, detailed in THE LANCET of Dec. 15th, with these, and turning the millimetres into inches, I find there is reason to believe that there is not much difference between the respiration of dogs and human respiration as regards variation in pressure. I find that in a spasmodic expiration, the chest being first expanded, as sneezing, mercury may be depressed for a part of a second, four or five inches below its level; this is best seen by having the mercury in a bent tube, when the rise of the mercury is seen in the other limb. The tube must not be put in the mouth during these experiments, as the act of suction performed by the mouth can raise mercury eight or nine inches, in addition to the act of respiration.

It is evident from these experiments that Sir David Barry much overrated the assistance which respiration gives to the venous circulation; but since M. Magendie has recently put the question in its true light, by experiments on the veins themselves, I need not dilate upon it. I will merely observe, in conclusion, that Sir D. Barry, in explaining the *modus operandi* of his important apparatus for preventing absorption in poisoned wounds, ought to have said, that in removing the atmospheric pressure from a part, he engages that pressure on the surrounding parts to oppose the absorption; instead of saying, as he does, that atmospheric pressure is the great agent of absorption, which is, therefore, prevented by removing that pressure.

NOVEL MODE OF TREATING

INJURIES OF THE BRAIN.

To the Editor of THE LANCET.

SIR:—Of what use is the human brain? The learned physiologists and phrenologists of the day, no doubt, will be startled at this question; but I think the following case will puzzle them a good deal, and go far to prove that they are very much out at sea in many of their speculations. With all the boasted wisdom of the age, human knowledge, after all, is very limited; and in every science there is a point beyond which it cannot advance; the great Newton, with his grasping faculties, after penetrating farther, perhaps, than any other person, into the arcana of Nature, found that all was a maze before him, and with humility and candour

acknowledged his ignorance; such an example of humble modesty is worthy to be imitated by the philosophers of the present day.

Just seven years to this time, I was sent for to attend a young man who had met with an accident in the extensive slate quarries of Mr. Ashton Smith, in this county; while stamping a rock the powder ignited, and the blast went direct to his face; both eyeballs were shattered to pieces, the scalp on the forehead very much lacerated, and above the inner canthus of the left eye was a small hole in the os frontis, fairly through into the brain; upon my arrival I found the person who attends the men at the quarries introducing a grooved director through this hole, and scooping the inside of the skull, bringing out some blackish sludge, and a good deal of brain, both cortical and medullary part. I must confess I had no great hopes of the patient's recovery, and thinking I could do no more mischief than had already been done, being also anxious to know if the brain possessed any sensitive power, I took the director, and passed it, in a direct line, until it touched the os occipitis opposite, and then turned it round into different parts; the young man, being quite conscious all this time, assured me it gave him no pain, and it was only at the hole in drawing out the instrument, that he did feel pain. It may be necessary to observe, there was no pressure of the skull on any part of the brain, and no fracture, with the exception of the hole in the os frontis. After dressing the wounds, and giving general directions as to the after treatment, I took my leave, and was not sent for again; the patient got well without any unfavourable symptoms, and it so happened I did not see him from that period until a few months since. The person already alluded to assured me he repeatedly introduced the director afterwards, but it was not at my desire; from the manner in which the instrument was used at different times, I am satisfied both the hemispheres of the cerebrum must have been broken down, and made a regular puddle of; notwithstanding, the young man has been in good health ever since, and not only that, but all the faculties of his mind are quite perfect, as well as his hearing, taste, smell, and feeling; his sight, of course, is totally destroyed.* His neighbours have assured me that he is a sensible, shrewd young fellow, a good singer, and remarkable for his memory. I shall content myself by merely stating the facts of this case; what I have here adduced can be attested by living witnesses; the young man himself lives to tell the tale; his name is Griffith Jones; he resides at a small farm called Ty-dn, within half a mile of the Old Inn, on the banks of the celebrated Lakes of Llanberris. I am, Sir, your humble servant,

William Roberts, Surgeon.

Carnarvon, Jan. 9, 1839.

P.S.—Griffith Jones is now, I believe, in his twenty-seventh year.

* We do not believe that there exists in the records of surgery a case, in which the surgeon took such extraordinary liberties with the brain of his patient, as the one described with such *naiveté* by Mr. Roberts. —Ed. L.

CHRONIC GASTRITIS

TREATED BY

LOCAL BLEEDING AND COUNTER-IRRITATION.

To the Editor of The Lancet.

Sir:—Should the following cases and successful treatment of chronic gastritis be worthy of notice, you will favour me by their insertion in your valuable and interesting Journal. I am, Sir, your obedient servant,

Wm. S. Stanley, M.R.C.S.L.

Prescot, Jan. 15, 1839.

Having observed that numerous cases, commonly designated dyspepsia, have been indiscriminately treated by bitters, stimulants, and purgatives, with little success, I feel satisfied, in accordance with the opinion of Dr. Stokes, of Dublin, that those cases are not sufficiently or generally understood, and it was with this conviction, but previous to my having observed his remarks on the benefit to be derived from local bleeding and counter-irritation in many of these cases, that I determined to put those remedies in practice whenever opportunities offered; the result of which will be seen in the four following cases.

Case 1.—Mrs. O., of Clontarf, county Dublin, a widow, has been suffering for five years from a pain extending over the region of the stomach, which is increased and accompanied after eating by a sense of fulness and burning heat, which is shortly followed by vomiting, and which gives temporary relief; can seldom keep any food on her stomach longer than half an hour; has violent pyrosis two or three times a day, followed by great depression, and frequent fainting; she frequently complains of flushes of heat all over her body, which terminate in profuse and sudden perspiration; the pulse in all these cases has been quick, small, and weak. I have also observed a great resemblance between the tongues of all these patients; they have been clean, small, and flabby, and of a pale pink colour. The symptoms in this case have been, I have no doubt, much aggravated and kept up by grief and depression of mind, although her

disposition is naturally lively; she has tried innumerable remedies, and is in the habit of taking magnesia to relieve the sickness and pyrosis. I ordered her twelve leeches to the epigastrium; the bowels to be gently opened by blue pill and colocynth. I have not used enemata in any of these cases, they being generally objected to; and I also think the pills of more service, as they act on the system generally. She got almost immediate relief from these means, and the next day felt much better; I then desired her, as soon as the leech-bites were healed, to use friction with turpentine liniment, also occasionally to take the effervescing soda powders, with four or five drops of tincture of opium in each draught; also, *subnit. of bismuth*, 40 grains; *extract of gentian*, 40 grains; *extract of opium*, 5 grains; *aromatic confection*, q. s.; divide into 20 pills; two thrice a day; also, half a wineglassful of *lime-water* in a cup of new milk twice a day. Under this treatment she rapidly improved for about three weeks, when she was thrown from a car, and severely injured her foot, which caused a high degree of sympathetic fever, during which I was, of course, obliged to abandon the treatment; the consequence was, that all the symptoms returned. I, therefore, had recourse again to the leeches, frictions, bismuth, &c.; and it was really surprising the rapidity with which she improved; it is also worthy of notice that whenever her bowels were confined (and she says she was always irregular in that way), that the symptoms partially returned; I recommended her, therefore, occasionally to take castor oil, which she did with great benefit. The last time I saw her, about two months since, she declared she had not been so well for the last five years, although the pyrosis and slight pain occasionally attacked her; I recommended her to repeat the leeches and pills.

All these patients I desired to abstain from vegetable food, and all beer and spirituous liquors, and everything that they knew to disagree, amongst which I found bread and potatoes very frequently; I generally recommended broiled mutton, which appeared to suit them all.

Case 2.—Miss S., of a delicate constitution, has been for some years, at intervals, subject to severe pain and sense of fulness and burning heat in the stomach, increased after meals; great lassitude and depression of spirits; headach, nausea, and faintness, which she said resembled sea-sickness, but much worse; she had no pyrosis; these attacks generally came on in summer, throughout which they sometimes lasted; she had tried frictions, bitters, &c., with little success, but she never experienced so much real benefit as she did after leeching and blistering, together with the bismuth pills, effervescing draughts, and lime-water and milk, which she took as her usual drink at dinner. This treatment always put an end almost immediately to the disease for some time, but did not prevent its returning afterwards, owing, I imagine, to delicacy of constitution; sometimes irregular catamenia, and the want of perseverance in the treatment, and also of taking regular exercise; sometimes making too much exertion, and sometimes making none.

Case 3.—Eliza M'C., Exchange-street, Dublin, also of a very delicate constitution, suffered, during the latter part of the autumn and winter of last year, with severe pain in the stomach, with a sense of fulness, as if a ball was lodged in her stomach, and burning heat after meals; most violent pyrosis and sickness; has been afraid to touch any kind of food, as she could take nothing that would remain on her stomach; she complained particularly of tea and bread. I could not get her to apply leeches, but she submitted to a blister, which gave immediate relief. I also made her use friction with turpentine liniment; she took the lime-water and soda powders, and the bismuth pills, as above. I ordered her to take stirabout for breakfast, and broiled meat for dinner; the stirabout was very grateful to her. Under this treatment she was almost perfectly recovered in less than three weeks. It is right to mention here that she had tried quinine and other bitters, without success, previous to her applying to me.

Case 4.—Dec. 21, 1838.—James Chorley, watchmaker, of Whiston, Prescot, has been ill for the last six months; complains of pain in his stomach, particularly after eating; frequent waterbrash and eructation of wind; a sense of swelling previous to the waterbrash, with fulness, weight, and slight burning after meals; has lost much flesh lately, and cannot sleep at night; was told he is in a consumption, and thinks himself incurable; countenance much dejected. Ordered him six leeches to the epigastrium, which he could not get till to-morrow; in the mean time to use friction with turpentine, and take a blue pill to-night, and a rhubarb draught in the morning.

Dec. 24, 1838. He applied the leeches last night, slept considerably better; no waterbrash; vomited twice yesterday; has but little pain to-day; gave him the bismuth pills as above, and lime-water and milk; to continue the friction; to use broiled meat for dinner, and cocoa or stirabout for breakfast. From this time to the 1st Jan., 1839, he rapidly improved, having continued the treatment, and added eighteen drops of *tincture of opium* to eight ounces of *lime-water*, and he now looks and sleeps well, and in good spirits, free from pain, sickness, or pyrosis. Thus, in eleven days, has this treatment cured the disease of six months' standing, having, as he said, during that time tried innumerable remedies.

Now, I think it appears evident, from the

pain and uneasiness of the stomach experienced by these patients, that there was a degree of inflammation existing for a long time, with a congested state of the vessels, and, in such a state, stimulants and bitters must only increase the evil, by setting up an increased action in the part, and thereby determining an increase of blood to the tunics, and, I have no doubt, causing a thickening of the mucous membrane, with an increased secretion. We are, therefore, naturally directed by these considerations to the use of local bleeding and counter-irritation, which should be continued till all pain and uneasiness are removed, when it will be found that the vomiting and pyrosis will also be relieved. The lime-water I believe to be of essential service in removing acidity, which is almost always present; and tonics, combined with narcotics, will now be of considerable benefit, giving tone to the vascular and nervous tunics, and quieting excitement. I would suggest that this treatment should be persevered in for some time, having recourse to local bleeding whenever a relapse is threatened, and being most particular in regulating the diet of the patient.

ON THE GOOD

EFFECTS OF HYDROCYANIC ACID

IN CASES OF

CHRONIC INFLAMMATION OF THE LUNGS,

AND PARTICULARLY OF PHTHISIS.

By M. Fantonetti, *Professor of Clinical Medicine at Pavia.*

In the year 1831 M. Fantonetti published several cases of chronic bronchitis and pulmonary consumption, which were successfully treated with prussic acid. Since then he has continued his experiments, and in the present memoir has published a still greater number of facts, many of which are extremely interesting. The acid employed by the author was at 900°; he commonly commenced by giving two or three drops in a pint of water, sweetened with a little syrup; the mixture was always shaken before being administered; and the author has gradually increased the dose to twenty drops a-day, but never exceeded the latter quantity. The following case will enable the reader to judge of the efficacy of the remedy and of the nature of the cases in which it was employed.

Case 1.—Bellani, formerly a soldier, now a coachman, narrow-chested, and of scrofulous appearance, had suffered from acute bronchitis in the early part of 1833, and subsequently from acute pneumonia, which was subdued after repeated bloodlettings. He had a relapse of the pulmonic attack on two several occasions, and after the last one symptoms of phthisis set in, and the patient was soon declared to be incurable by several physicians. When the author first saw the patient the latter had been confined to bed for ten weeks; he was much emaciated, and coughed continually; the expectoration was abundant and purulent. On auscultating the chest the crepitant and cavernous rattles were discovered at the summit of both lungs, particularly on the right side; bronchophony, pectoriloquy, and œgophony, also existed at the left side, posteriorly and inferiorly. The appetite was lost; skin dry; thirst intense; pulse 130 in the evening; 100 to 110 in the morning; there were night sweats; slight diarrhœa, and some tumefaction of the lower extremities.—Four drops of prussic acid in a pint of gum-arabic emulsion. Barley-water for drink.

March 31. Six drops of the acid.

April 1. Seven drops.

2. Eight drops; no improvement.

3. Ten drops. Towards evening some slight symptoms of narcotism appeared; nevertheless the remedy was continued throughout the night.

4. The narcotism is more manifest, but the dyspnœa, cough, expectoration, and fever have remarkably diminished. The medicine is suspended for one day.

5. Eight drops administered. The acid does not produce any unpleasant effects.

6 and 7. Same dose continued; amelioration of the patient's state. The dose was now increased to nine drops, and administered in this quantity daily, for six days. The medicine was then suspended for a single day and resumed on the next, at the dose of eight drops. At this period it was found, on ausculting the chest, that there existed throughout the left lung generally nothing more than a slight respiratory murmur, except above and below, where some mucous râle was distinguished; on the right side slight cavernous respiration and mucous rattle.

The dose was now carried to twelve drops, and the patient ordered to take some milk and Iceland-moss jelly. In ten days the whole of the symptoms had completely disappeared; there were no longer any cavernous respiration, cough, fever, or expectoration.

The patient began to acquire some strength, and was able to get up. The dose of the acid was now diminished to six drops during five days, with decoction of lichen; since then the amelioration was rapid, and soon terminated in a complete cure. The patient was enabled to resume his occupation of coachman, and has had no relapse.

Case 2.—A young man, 24 years of age, musician, of scrofulous constitution, was seized, at the age of 22, with cough, in con-

sequence of a debauched life; symptoms of pneumonia soon supervened, and he was bled seven times. After recovery he was teased with a short cough for a year, and then was again attacked by pneumonia. On the 2nd of April he was admitted into the hospital, under the care of M. Fantonetti, in the following state:—

Constant irritation of the throat; respiration difficult, unequal, and undulating; right side of the thorax almost immoveable; frequent cough; copious expectoration of round, yellowish matter, mixed with mucus, and occasionally blood. There is an evident gurgling behind the left clavicle; over the remainder of the chest the respiratory murmur is slightly crepitant and mucous. The patient complains of a feeling of heat in the throat, and along the trachea; fever towards evening; sweating in the morning.—Four drops of prussic acid in a pint of distilled water; an ounce to be taken every second hour; decoction of lichen.

April 3. Five drops.

4. The dose increased to six drops.

10. Eight drops. There has been an increase in the severity of the symptoms in consequence of the patient's imprudence. Bleeding from the arm; acid as above.

18. The dose gradually increased to twelve drops.

19. Slight symptoms of narcotism. The remedy is suspended until the 22nd, and then administered in the quantity of eight drops.

21. There is an amendment, for the first time, in all the symptoms.

30. Dose raised to fourteen drops. The ptisan is vomited.

May 8. Patient complains of headach and vertigo. The remedy is suspended; a laxative is administered.

12. Acid resumed, in dose of eight drops. There is no amendment in the physical signs of the thoracic disease, but the patient is much less feverish and less subject to sweating. The cavernous respiration at the upper part of the chest persists; the nature of the expectorated matters continues the same; for the last few days, however, there have been no traces of blood in them.

June 1. Cough much less troublesome; expectoration less abundant, chiefly mucous; no fever; 16 drops of the acid; animal food allowed.

6. Dose diminished to twelve drops. Gradual improvement; the patient walks about; the difficulty of respiration has considerably diminished; the cough is slight and the expectoration scanty.

10. The use of the acid is suspended; the patient takes instead 1½ grains of watery extract of myrrh every three or four hours.

22. The patient feels much better; whilst walking about the hospital he is suddenly seized with acute pain in the left side of the chest, and great difficulty of breathing.—Eighteen leeches to the chest; purgative draught.

23. The symptoms persist. Eight drops of prussic acid.

26. Augmentation of the signs of pulmonary inflammation. The cavernous sound persists on the left side, but is much less intense. Bleeding to 10 oz.; prussic acid ten drops.

27. No improvement; dyspnœa; cough; sense of heat in the chest; fever.—Bleeding to 10 oz.; prussic acid ten drops.

28. No change.

29 and 30. Considerable improvement. Continue the acid.

July 5. Gradual improvement. The dose is diminished to four drops. From this time the patient continued to get better. On ausculting the chest no cavernous sound or gurgling can be distinguished; there is only a trace of pectoriloquy.

15. Cough nearly disappeared; expectoration mucous and scanty. The appetite has returned; the patient is recovering strength and flesh.

18. Dismissed the hospital cured. During the space of two years the patient continued to enjoy good health; he afterwards fell into his old way of life, was again attacked by pneumonia, and died at Monza.

M. Fantonetti relates several other cases of tubercular phthisis and chronic bronchitis, in which the effects of prussic acid were not less remarkable. It is to be regretted that he did not follow up the case of the young man just related, and ascertain, by inspection of the dead body, the real condition of the lung. The cases which we have selected, and the others detailed by the author, are not described with sufficient minuteness and accuracy to remove all doubts concerning their nature; it must, however, be confessed that they resembled cases of tubercular phthisis as closely as possible, and that, whatever name we may choose to give to the affections just described, the action of the prussic acid was most remarkable.—*Gior. Med. di Veniza, and French Med. Gazette*, No. 50, 1838.

STATISTICAL ACCOUNT
OF THE
CASES OF CALCULUS,
Treated in the Hospital of St. Mary, St. Petersburg, during 28 years.

The total number of patients affected with urinary calculus, treated in the hospital, between the years 1808 and 1836, amounted to 1411.

The following table presents a view of the results obtained during the last seven years:—

Year.*	Entries.	Operations.	Cured.	Not cured by Operation.	Died within First Week.	Died within a Month or more.	Deaths without Operation.
1830	63	52	47	9	2	3	2
1831	56	52	45	2	4	3	2
1832	53	49	43	3	4	2	1
1833	86	71	64	11	3	4	4
1834	73	69	65	1	2	2	3
1835	64	53	46	9	4	3	2
1836	74	65	59	6	4	2	3
	469	411	369	41	23	19	17

TABLE *showing the different Ages of the Calculous Patients.*

Age.	Number of Patients.	Cured.	Not Operated on.	Dead within a Week.	Dead after the lapse of a Month or more of some Acute Disease, not connected with Operation.	Deaths without Operation.
Years.						
2	28	18	5	1	2	2
3	51	41	8	1	1	—
4	54	48	2	1	2	1
5	38	33	1	2	1	1
6	39	35	3	1	—	—
7	38	31	3	2	2	—
8	35	32	2	1	—	—
9	22	20	1	.....	1	—
10	21	18	1	1	.....	1
11	13	7	1	3	.....	2
12	18	14	1	2	.....	1
13	10	7	.....	3	—	—
14	15	12	2	.....	1	—
15	10	7	.....	.....	3	—
16	3	7	.....	.....	1	1
17	10	8	1	.....	1	—
18	9	4	.....	1	—	—
19	4	2	1	.....	.....	1
20	8	5	1	1	.....	1
21	3	2	.....	1	—	—
22	6	4	.....	1	.....	1
23	7	1	3	.....	2	1
24	2	1	1	—	—	—
25	2	1	1	—	—	—
27	4	2	.....	.....	2	—
30	1	1	—	—	—	—
31	1	1	—	—	—	—
33	2	1	1	—	—	—
34	2	.....	.....	1	.....	1
35	2	1	.....	.....	.....	1
36	1	1	—	—	—	—
38	1	1	—	—	—	—
39	1	.....	1	—	—	—
40	2	.....	.....	.....	.....	2
45	1	1	—	—	—	—
53	1	1	—	—	—	—
55	1	1	—	—	—	—
61	1	.....	1	—	—	—
	469	369	41	23	49	17

According to M. de Ross, the great frequency of calculous affections amongst children in the government of Moskow, depends on the little attention which is paid by parents to their children; they stuff the unfortunate infants with potatoes, cakes, and all kinds of indigestible stuff; their chambers are small and dirty, and the water in the neighbourhood of the villages is not only foul, but contains a quantity of earthy matter. As soon as a child evinces any symptoms of stone they place it under the care of some old female quack, who endeavours to extract the stone by sucking the urethra; this, it is said, frequently succeeds. The rest of their treatment consists in rubbing the abdomen or back with a strong solution of soap, with butter or lard; they shake the child violently, &c.; and it is only when the infant has been exhausted by such barbarous means that he is brought to the hospital.—*French Gaz. Med.*

PERICARDITIS WITH EFFUSION IN A CHILD.

Mary Kernan, ætat. 10, was admitted into the hospital October 6th, in a state of collapse, moaning, sighing, and evidently suffering great distress from difficulty of breathing; the pulse could scarcely be detected; her extremities were cold, and considerable tenderness existed over the left side of the chest. Carbonate of ammonia, with calomel, and dry cupping to the painful parts, were ordered; and being this morning more at ease and in less agony, she gives the following statements as the history of her illness:—

Being placed in a draught of air, yesterday week, whilst lying in bed, was seized the following day with shiverings, vomiting, headach, pains in the loins, thighs, and legs, also a beating of the heart so strong as to make her imagine it would at last "thump" through her side, continuing for two days, with slight intermissions in its violence; it was then accompanied with an acute, sharp, lancinating pain in the mammary region, extending to the neck and back, being particularly severe between the shoulder blades and the left arm as far as the elbow, and aggravated by motion, inspiring fully, or muscular efforts of any description. Added to these complaints, there was difficulty of lying on the left side, with shortness of breath, and a hacking, distressing cough, without expectoration; this, however, she had had for many days previous, without any attendant pain or other untoward symptom. From the chest, the pain seemed to spread, or dart forward to the right side of the abdomen, and from thence over every part of the belly, occasioning more uneasiness than when confined to its primitive seat. Prior to coming in, some purgative medicines were given with slight relief. For several nights past, her sleep has been much disturbed and she now lies on her right side, groaning frequently, and prostrated in strength, so as to be unable to raise herself in bed without assistance. She complains mostly of urgent thirst, a stuffing about the chest, and a "great weight, or heavy load on the heart;" inability to lie on the left side, or sit up from an increase in the cough; pains in the mammary region, and palpitations of the heart; when pressure is made over this portion of the chest, much disquietude is produced.

Her countenance is bloated, œdematous, and pale; lips almost colourless; skin hot and dry; breathing rapid and laboured, 48 in the minute; pulse 120, small, feeble, varying in strength, and intermittent; tongue furred and clammy.

The left side of the chest to the eye appears fuller, of larger dimensions, and the muscles, as it were, puffed out; this is particularly obvious about the nipple; when measured, no inequality between the two sides can be discovered; percussion from an inch below the left clavicle, to the lower part of the cardiac region, also laterally over a space of several inches, is perfectly dull; this is likewise observable over the middle and inferior parts of the sternum, and to the right of this bone, whilst posteriorly over both scapulæ, as far as their spinous ridge, and below these bones, it is preternaturally clear. Respiration is exceedingly feeble over the dull parts, but free from râle, and elsewhere very loud. Impulse of heart cannot be felt; its action feeble, sounds indistinct below the mamma, becoming more audible towards the sternum, and can be heard in the epigastrium. No bruit can be detected. Abdomen full, tense, and much pained by pressure over the hepatic region. Six leeches to the precordial region. Chalk powder with mercury, 5 grains, thrice a day.

7. Leeches were applied to the hepatic region alone; she expresses herself as somewhat relieved, and can now lie on the left side without being so much inconvenienced; slept better, and moaned comparatively little; pulse very irregular, is full and soft at one time for eight or ten beats, then diminishing in strength, it increases in frequency, to the rate of 120 or 130, gradually vanishes from beneath the finger, and ceases to be felt; the succeeding pulsations are full and distinct, not more than 88 or 90 in the minute. Respiration 48, still distressed; bowels opened twice; tongue loaded and moist. Percussion over the parts noted above remains the same; on the clavicles of each side it is quite natural. Immediately above the left clavicle there is an evident fulness or swelling of the lower part of the neck, not visible on the right side; *and on coughing*

a tumour is brought into view, which disappears as soon as the paroxysm subsides. Respiration in this part is perfectly distinct; a wheezing râle is audible in the lower portion of the left side. Heart's impulse and action the same; in the erect posture its sounds can scarcely be detected, but on lying down they are tolerably distinct. Blister to epigastrium; repeat powder.

8. Was very restless the entire night, moaning frequently, and coughing constantly. Her countenance is less swollen; her breathing is more difficult; and she complains principally of the "stuffing and weight about the heart." Pulse remains of the same character, but is not so irregular.

No change has taken place in the phenomena either of the lungs or heart, except that the fulness in the lower part of the neck is more apparent, and the bronchitic râles more distinct in the inferior and middle portions of each lung. Abdomen not so tender, but still swollen; bowels purged.

Leeches were again ordered, and a further attempt made to bring the system under the influence of mercury by inunction and the vapour of a mercurial candle.

9. Breath is slightly mercurial; appears less affected in her breathing; the respirations continue rapid, 40 in the minute; no alteration in the character of the pulse.

There are now intense cooing and hissing râles in each lung posteriorly, but otherwise no change has taken place in the percussion or respiration. The cough is very troublesome, and attended with a frothy tenacious expectoration; pains increased and palpitations induced by lying on the left side. Repeat medicaments; blister to right hypochondrium.

10. Prefers being in the erect posture, being more at ease, less oppressed, and in a great measure relieved of the weight and load on her heart. Her countenance and aspect generally are improved, but her breathing remains frequent and laboured; *the pulse is regular*, 128 *in the minute; does not vary in strength, neither has an intermission occurred during so many beats.* She is at present sitting up in the bed, and whilst in this posture the pulse was counted.

Percussion over the inferior portions of each lung posteriorly, the left in particular, has lost its tympanitic sound, but retains it at the superior parts. Heart's impulse is still imperceptible, its sounds are distinctly audible along the sternum. Blister to right side; repeat med.

11. The pulse again varies in strength, intermits occasionally, and partakes of the description given on the 7th, is 120 in the minute, but she is now in the recumbent posture; passed the night, as heretofore, moaning, and in a very restless manner; complains of the oppression about her heart being increased, and refers it to the lower part of the sternum and right side. There is considerable wheezing in the throat; on account of the blister no examination of the chest could be made; pressure over the abdomen produces pain; it is swollen and dull all over when percussed. Blister to precordial region; repeat med.

12. The phenomena remain as before, viz., the fulness about the lower part of the left side of the neck, with pure and distinct respiration; healthy sound on percussion over each clavicle, with the natural vesicular murmur; one inch below this, better marked on the left side, extending over the middle and inferior parts of the sternum, anterior part of right side, and a portion of the lateral of the left, a perfectly dull sound is elicited by percussion; the respiration being almost null in the left, feeble but distinct in the right. A very clear sound on percussion in the superior parts posteriorly, with a mixture of bronchitic and crepitating râle in the inferior lobes, and loud respiration, from râle, in the superior lobes. Heart's impulse and action the same. Pulse much weaker; respiration more frequent, 56 in the minute; breathing free; tongue loaded.

13. Pulse almost imperceptible; breathing more laboured and distressed; lips of a livid hue.

Died at 11 o'clock, P.M.

Post-mortem, fourteen hours after Death.—External appearances similar to that presented when alive; countenance puffed, pale and œdematous; chest, *particularly left side, full and prominent*, and the abdomen distended and rounded. The same phenomena are afforded by percussion, as noted in the reports during life. The integuments of the chest, as also those of the abdomen, are watery. As soon as the knife pierced the cartilages of the left ribs a gush of straw-coloured fluid took place, and when the sternum was raised nothing but the pericardium could be seen, to such an extent was it distended, as to occupy the mesial line, extending from the diaphragm to within one inch of the fourchette of the sternum, and across to the right side. On removing it from the left cavity of the thorax, the lung was found much diminished in size, pushed upwards, and pressed against the spine and ribs; having lost a great deal of its natural feel, and appearing like a lung compressed by a pleuritic effusion. The right lung was also affected in the same manner, but in a minor degree. Slight adhesions of recent formation existed between the left lung and pericardial sac, as also between the pulmonary and costal pleura, at the superior lobe of the right lung.

The pericardium itself is increased to at least three times its natural capacity; its exterior highly vascular, whilst its internal surface appears smooth, shining, and covered with a gelatinous kind of fluid, resembling the mucous coat of the stomach, or other portions of the intestinal canal. Its thick-

ness is from three to five lines; but on inspecting the cut surfaces minutely, it is evident this increase is produced by the addition of a false membrane. On the superficies of this membrane are several patches of apparently coagulated lymph, stained of a purple or dark red colour; differing considerably in their dimensions, and situated, in particular, near the base of the heart, and that part of the sac in connection with the posterior surface of this viscus; the larger of these, however, of an oblong shape, about two inches in length, and of a darker colour than the rest, is situated where the anterior part of the heart and pericardium are in contact. Besides these, there are innumerable depressions, or pittings, capable of admitting the end of a probe on the lower and anterior part of this membrane, whilst near the base of the heart and the posterior part of its investing sac, this coating is separated into distinct patches, the serous covering of the pericardium being quite apparent underneath, and presenting its natural glistening appearance.

This false membrane can, with the greatest facility, be scraped off in solid pieces by the nail.

The entire surface of the heart is of a vermillion colour, and coated over with a most beautiful honey-comb, reticular kind of organised lymph, exceedingly fine, but perfectly adherent to the layer of serous membrane covering the heart at the apex.

Advancing upwards or nearer to the base, it is more condensed and compact, seemingly farther progressed in the process of organisation, the shreds and interlacing fibres being increased in bulk.

From the quantity of this crimson-coloured network at the commencement of the aorta and pulmonary artery, it is almost impossible to distinguish between them, so closely are they united together. The under surface of the auricular appendices, and that part of the heart they rest on, are the only portions which do not present to the same degree, and in a slight manner merely, the general aspect described.

Covered in this manner, and to such an extent as the anterior surface is, the posterior is trebly more so, and with a form of lymph more organised, denser and firmer, and from its exterior are three or four appendages, tough, closely adherent to, and evidently taking their origin from, the surface of the coagulable lymph.

On the removal of a portion of this coating, the substance of the heart beneath presents a rosaceous hue; its size does not appear to be much altered, perhaps larger than natural. No examination of the interior. A quantity of the same coloured fluid escaped from the cavity of the abdomen on laying open its parietes; the liver did not appear increased in size, and its structure was perfectly healthy; bands of lymph passed between and connected together the visceral and parietal peritoneum, few and slight, and not connecting together the intestines themselves. The interior of the intestinal canal was not examined.

NECESSITY OF LEGAL ENACTMENTS FOR THE PREVENTION OF SMALL-POX INOCULATION.

THE following letter has been recently addressed by Mr. Dendy to the Secretary of State for the Home Department. We fully agree with the writer, that the practice of small-pox inoculation, which, we regret to say, prevails extensively in some parts of England, should be prohibited by positive enactment.

To the Right Hon. LORD JOHN RUSSELL, *Secretary of State.*

MY LORD:—The award granted to Dr. Jenner for his discovery of the prophylactic power of vaccination, proves the high estimation which the Parliament entertained of its value. It was a national question *then*, of deep and vital importance; it is not less so *now*, when the public mind is daily bewildered by reports and deductions of the most conflicting nature. It is impossible that a fair inference can be drawn from these contrasts but by the most impartial and scientific reader, and after careful and patient analysis of a thousand cases.

May I briefly draw your Lordship's attention to the objections now raised, and *to a certain extent justly raised*, against the prophylaxis of cow-pock, and at the same time to the modes most efficient to remove them. One of the most fertile sources of the present popular discontent is the opinion originally entertained of the *extent* of this prophylaxis, viz., that the true vaccine was a *certain* preventive of variolous infection. This was a fatal error; the national hopes were raised too high; a single case of its failure was sufficient to induce scepticism, and the frequent repetition of its apparent inefficacy has created a powerful and widely-spreading prejudice. It is the duty of the profession to quiet the public mind, and restore its confidence; to represent the question in its true light, by fair and candid statements, and thus vindicate the real value of the vaccine.

For the first twelve years after the adoption of vaccination, small-pox was, to a very great extent, subdued, and the report of the Board of Health was, that from 1800 to 1805, only three cases of small-pox after vaccination had occurred. Professor Hecker, of Berlin, states that small-pox was about that time almost unknown in Prussia. Dr.

Holst, of Christiania, informs us that for fourteen years after vaccination was generally performed in Norway variola ceased to form a subject in elementary tuition. I might cite numerous bills of mortality to enhance this evidence. Such was the controlling power of vaccine in those days.

What are the reports in the present time? In the Pancras Hospital the cases of small-pox last year were more than double those of the preceding. From the same source, however, it is admitted, that 60 per cent. of small-pox cases in vaccinated persons are very much mitigated, and that few severe cases have occurred within twelve years from perfect vaccination. The average number of deaths from small-pox being, in the vaccinated, 7; in the unvaccinated, 27. I may venture to assert that the average of deaths (without the protecting influence of vaccine), even in *inoculated* small-pox, would far exceed the seven. Thus, even now, we afford a very great chance of escape, and a modified and milder disease, if such should occur.

To explain all this various hypotheses have been offered; the most rational being, that a spurious vesicle is formed, or a *local*, and not *constitutional* disorder is induced by unscientific vaccination, or the unsusceptibility of the person to receive the full infection; or that there is a progressive increase of susceptibility as the distance of *time* from even true vaccination increases.

To meet these objections we are endeavouring to produce a more perfect vaccine, by disseminating a far more active and certain lymph recently obtained from the cow; and it is extremely easy to test the efficacy of former vaccination, and establish its preventive power, by a periodical repetition of the very simple process.

Apart from the question of vaccination we may adduce another cause of the prevalence of variola. There are occasionally certain atmospheric constitutions favourable to the diffusion, perhaps the generation, of peculiar diseases; as we have dysentery, cholera, influenza, typhus, the prevailing diseases, so we may have small-pox; indeed, Sydenham writes of epidemic small-pox as he does of epidemic plague. In comparison, however, with the epidemic small-pox of former years, that of the last year has been a cypher,—the effect, evidently, of vaccination.

My Lord, the mode of destroying an evil is to cut off its sources. Are we applying the force of this principle to the present emergency? Ere the adoption of vaccination small pox was so universally dreaded that it was deemed essential to establish pest-houses, around which a sort of cordon sanitaire was drawn, by the exhibition of large boards inscribed, "*Beware, small-pox here!*" The blessings of vaccination have been followed by the abolition of these lazar-houses.

An increasing disposition, however, to *inoculate* the small-pox must, in the end, call for their re-establishment, unless some efficient legislative enactment shall check this error, and thus protect the prejudiced against themselves. What, my Lord, is the object of vaccination? To prevent the diffusion of small-pox. What is the effect of the inoculation (of small-pox)? To multiply a thousand-fold the *foci* from which the malaria issues. What is the use of quarantine or restriction? To confine these foci of malariæ within certain bounds. What, again, is the effect of inoculation? Their universal diffusion. Is it not then evident, my Lord, that the half measures of the present system are defeating the efforts of philanthropy? Is it not evident that without some restrictive enactment by which this "fons et origo" of malaria shall be limited or destroyed, it will be vain to hope for the *full effect* of the vaccine antidote, which, if fostered and protected as it should be, we might confidently hope, would drive this variolous pestilence from out the land? I have the honour to be, my Lord, your Lordship's obedient servant,

WALTER C. DENDY.

Stamford-street, Jan. 16th, 1839.

ANCIENT RECOMMENDATION OF WHITE-OF-EGG BANDAGES.

To the Editor of THE LANCET.

SIR:—At the present moment, when France, Belgium, and England, are contending for the honour of having originated the employment of white-of-egg bandages in the treatment of fractures, the following extract from an old author may be interesting to some of your readers:—In "Gale's Chirurgerie," chapter iii. the 4th "Booke of the Enchirideon" is thus headed:—"Howe the Broken Bones, united and joined together apatly, may be kept and remaine in the same figure, so that they may come to their former estate."

The writer first recommends the use of a roller, then adds, "But before you do go about to rol the membre, it is very good to mixe the white of an egge and oile of roses together, and wet therein a soft linen clothe, of such bigness as may compasse not only the place where the bone is fractured, but also somewhat of the sounde partes, &c., &c." See his Work, "newly compiled and published by Thomas Gale, Maister in Chirurgerie. Printed at London by Rowland Hill, for Thomas Gale, 1563."

I am, Sir, your obedient servant, and

CONSTANT READER.

London, January 17, 1839.

THE LANCET.

London, Saturday, January 26, 1839.

OFFICE OF CORONER FOR MIDDLESEX.

TO THE FREEHOLDERS OF THE COUNTY OF MIDDLESEX.

GENTLEMEN:—The death of the venerable Mr. STIRLING, on the 17th inst., has caused a vacancy in the office of Coroner for the County of Middlesex.

On my return to town last night I ascertained, with feelings of pride and satisfaction, that a desire had been unequivocally and urgently expressed, by an immense number of electors who are resident in all parts of the county, that I should instantly become a candidate for the vacant office.

Having been thus called upon by an immense body of influential freeholders, whose support leaves no doubt as to what must be the issue of the contest, I unhesitatingly enter the field, and respectfully announce to you that I am a candidate for your suffrages.

The cause is in your hands. It is for you to determine on this important occasion whether Coroners' Inquests shall henceforth be so many useless, but expensive and pernicious, exhibitions, in your county, or whether, by appointing to preside over the Coroner's Court, a person who has received a competent medical education, the Coroner's Court shall be rendered a valuable national institution.

This is no party question; and as one it will not be considered and discussed in the coming contest by, Gentlemen,

Your most faithful, and obedient servant,
THOMAS WAKLEY.

35, Bedford-square, Jan. 24, 1839.

*** The Central Committee for conducting the election of Mr. WAKLEY will sit daily at the CROWN AND ANCHOR Tavern, Strand, where all communications should be addressed to Mr. JOSEPH CROUCHER, the Secretary.

In the preceding Numbers of this Journal we have examined, at considerable length, several important points connected with the subject of small-pox and vaccination. The facts which we have adduced seem to establish two capital circumstances relative to the increased frequency of modified small-pox and the diminished influence of the vaccine virus. Thus, we have deduced, from a very extensive series of statistical data, "That the occurrence of small-"pox after vaccination, which was exceed-"ingly rare during the first ten or twelve "years after the discovery of vaccination, "has recently become sufficiently frequent "to excite the attention of medical men and "of the public in all parts of Europe;—That "the protective influence of the vaccine "virus diminishes with the lapse of years "since vaccination;—That revaccination "generally fails in children, but succeeds "in adults;—And, finally, That the gravity "and danger of modified small-pox are com-"monly proportionate to the interval of "time which has elapsed since the primary "vaccination."

From the above propositions one practical conclusion alone can flow. If time diminish the protective influence of the vaccine virus, let us see whether the constitution may not again become susceptible of the contagion and acquire a fresh power of resisting small-pox. The question is merely one of time. The deed of immunity has lapsed. Shall we not seek and obtain a "renewal," when the means are within our reach? It may, perhaps, be objected, that revaccination is a mere chimera; that the constitution is not susceptible of contracting vaccinia a second time. We shall, therefore, commence by exposing a few facts which demonstrate the possibility of reproducing cow-pock in the same individual; and then endeavour to determine how far the present state of our knowledge enables us to pronounce on the expediency and efficacy of revaccination.

Revaccination succeeds only in the adult. We have already stated the facts on which

this assertion is founded. In children the proportion of successful revaccinations is exceedingly small. Mr. HUTCHINSON was enabled to communicate cow-pock a second time to *eleven* children only amongst two hundred and sixteen. We must, therefore, seek for information on the point now under examination in the experiments which have been performed upon adults. These are at once most extensive in number and convincing in result. We shall mention but a few amongst them, from the records of Germany and Prussia, countries in which the question of vaccination has been followed up with the utmost zeal and perseverance.

The results of the revaccinations which were practised in the Prussian army during the year 1837, demonstrate, in the clearest manner, not only the possibility of reproducing cow-pock in a large number of cases, but also the beneficial effects of the practice.

47,258 adults were revaccinated during the course of that year. The second vaccination produced a *full effect* in 21,308 individuals. In the remainder the operation was followed by *imperfect* effects or *failed* altogether. The two latter classes were vaccinated a third time, and with *full* effect in 2743 persons. Here, then, we find that revaccination succeeded in developing complete cow-pock in one-half of the individuals who were submitted to the process. But what were the results? Where the *cui bono* of the operation? During the year *not a single* soldier amongst the 23,551 thus successfully revaccinated, was attacked by true small-pox; while the number of cases of varioloid amounted only to seven. This result is peculiarly worthy of notice, because small-pox prevailed extensively during the year 1837, throughout the Prussian dominions.

The results of the revaccinations which have been recently practised in Württemburg bear a very close resemblance to those obtained in Prussia. 44,248 individuals were vaccinated a second time, with full effect in 46 per cent. of the cases; with modified effect in 20 per cent.; without effect in 34 per cent. of the experiments. The efficacy of revaccination is equally demonstrated by the fact, that of the 44,000 persons who were thus revaccinated during a period of five years, *only a single* individual became affected with small-pox. The form of the disease in this person was varioloid, and the man had been revaccinated two years previously with *imperfect* effect.

The above-mentioned experiments are on such an extensive scale that it would seem to be superfluous to adduce further proof. We cannot, however, refrain from mentioning a few corroborative facts of minor importance. In the year 1832 Dr. FRITZ, during an epidemic of small-pox, vaccinated 482, and re-vaccinated 682 individuals. Although numbers amongst them were in constant attendance on the sick, and even slept in the same bed with those labouring under the disease, all, with the exception of two, escaped contagion.

In another district, Dr. LOHRMANN revaccinated 700 persons (most of them with effect), and found that not one amongst them was attacked during the epidemic, although small-pox prevailed to a great extent, and with considerable severity.

In Crailsheim, Dr. HORLACHER succeeded in cutting short the epidemic by vaccinating all the unvaccinated children, and by revaccinating all persons between the ages of twelve and thirty years.

M. DEZEIMEREIS, to whom we are indebted for much valuable information on this subject, mentions the following facts:—In the Milan epidemic of 1830 more than 2000 persons were revaccinated; yet, notwithstanding frequent exposure to contagion in a city where the disease prevailed extensively, not a single individual amongst the 2000 was attacked.

In the Grand Duchy of Baden numbers of vaccinated persons having been seized with small-pox, the Government issued an ordinance which rendered the practice of revaccination imperative. The success of the

measure was complete. The progress of the epidemic was suddenly arrested, when there remained no other subjects for attack than vaccinated children below twelve years of age, and revaccinated adults.

The preceding examples are sufficient, we should imagine, to convince all who are open to conviction, of the expediency and efficacy of revaccination. We have, therefore, only to inquire, if revaccination be expedient, at what age or period after the primary vaccination should it be practised? Opinions are much divided on this point, but our own conviction is, that the most opportune period is the one which immediately succeeds puberty.

Before drawing to a close the lengthened inquiry into which we have entered on the important subject of vaccination, we feel it to be our duty to make "a profession of faith" on one or two points connected with it. In the first place, we declare that the value of JENNER's discovery has not fallen one iota in our estimation, and that the conscientious scrutiny of the various documents which we have consulted only tends to confirm our ancient opinion, that vaccination is the greatest boon which the science of medicine has conferred upon mankind. We, therefore, insist on the necessity of diffusing this inestimable blessing as widely as possible; we exhort our medical brethren to use all their influence towards the removal of the prejudices which have hitherto impeded its progress; and we sincerely deplore the culpable negligence of those who, through want of foresight or zeal, have permitted the practice of vaccination in this country to fall into comparative disuse. It is true that we have been instrumental in determining the *real* protective influence of the vaccine virus, and in dissipating certain illusions which were only calculated to bring vaccination into public disrepute; but we have, at the same time, shown that if the prophylactic power of the vaccine virus decline, and almost disappear, after a certain lapse of time, it may be renewed at the expiration of that period; and we have pointed out a measure by which the full benefit of JENNER's immortal discovery may be realised without difficulty or danger. This measure is revaccination. Our advice, then, to the profession and the public may be summed up in a single sentence: Vaccinate all children speedily after birth, and revaccinate them after the period of puberty. This practice will not, as some have too fondly imagined, extirpate small-pox, but it will do all that human power is permitted to do—disarm a deadly disease of all its terrors.

LUNATIC ASYLUMS.

To the Editor of THE LANCET.

SIR:—In my last letter, published in THE LANCET Dec. 22, 1838, on the Statistics of Lunatic Asylums, I stated an opinion that in small establishments only, conducted by medical men, taking an especial interest in the pursuits, and personally attending to the moral, medical, and physical treatment of each patient,—not delegating this office extensively to underlings, servants, or assistants, who can scarcely ever be found sufficiently zealous or interested to accomplish the task in a way it ought to be done,—could the successful treatment of lunacy to the utmost degree of perfection hitherto attained be found; and also, that in the large establishments, indifference, apathy, and neglect, were the natural effects of the delegation of the trust and treatment of the patients to paid officers, keepers, servants, &c. These opinions I find very fully confirmed by the statements of an experienced foreigner, M. Leuret, who having visited many of the large asylums in Europe, expresses himself, according to the report in THE LANCET, Jan. 5, 1839, page 564, thus:—"In the present state of things a large number of lunatics may be physicked by a single physician; but scientific treatment *imperatively demands small hospitals* and a limited number of patients; under one system we meet nothing but ill success; the latter would reward us with numerous cures."

In my own establishment, limited to twelve patients, the number of cures effected has been at the rate of 70 per cent: since my published statistical table in THE LANCET Dec. 22, 1838, two patients have been added to the list of cured and discharged. I have not heard of any relapses of those discharged from this asylum. In THE LANCET, Dec. 8, 1838, page 412, I find stated, that at the Gloucester County Asylum 50 per cent. recovered; at Hanwell, 19; and at Stafford, 46 per cent.; the mean duration of the treatment at Gloucester was 1¾ years; at

Hanwell, 4 years; at Stafford, 1½ year; at the Driffold Asylum it has been 21 weeks, 5 days. Does not this prove the truth of the remarks of M. Leuret in behalf of small asylums, and of my own in a former communication to THE LANCET on the subject, previous to the publication of M. Leuret's opinions? Yet, notwithstanding that experience and observation prove the superiority of the small private asylums in the cure of lunacy, an attempt is now making to establish a monopoly* on a more extensive scale than has hitherto been done in this country, for the treatment of lunatics, by a joint-stock company, who have opened their proceedings by advertising to the world the following totally untrue, and I must add, very calumnious statement respecting the private asylums. Their prospectus runs thus:—"It is a *melancholy fact*, that, while the pauper lunatics in the county asylums are protected by the disinterested surveillance of the independent magistracy of the county, and are blessed with the medical attendance of a resident paid officer of first-rate talent, whose emoluments do not depend in any way on the number of patients he can retain in the county asylum, the unfortunate sufferer in the higher walks has no refuge but the ordinary licensed madhouse, or private residence, where there is no surveillance, and where the interests of the medical man, and of every one by whom the invalids are surrounded, are notoriously so much more promoted by their remaining lunatic than by their recovery, that a constant struggle between principle and self-interest must be the result," &c. Whenever any man or set of men have fully determined to delude the public mind, they commonly adopt the stale trick of assuring it of some "melancholy fact" which, although a sheer invention of their own, is supposed to have great weight. Thus, the proprietors of Denham Hall assure the public that the pauper lunatics are watched over by an independent magistracy, the "ordinary private asylums not so;" therefore, the magistrates who watch over the latter are dependent, venal, corrupt, of course; the former "are blest with a paid officer of first-rate talent" (at Hanwell, for instance, through this blessing 19 per cent. of the patients are cured, after four years treatment), whereas the unfortunate sufferer in the "ordinary licensed madhouse" is under no surveillance, and "the interests of the medical man are notoriously so much more promoted by his remaining lunatic than by recovery," that the proprietor of the Driffold Asylum, "constantly struggling between principle and self-interest," has discharged cured only 70 per cent. of his patients, after a mean treatment of each case of four months and ten days.* In conclusion, let the proprietors of the "Invalid Institution" carry on their measures with more fairness, and withdraw from their advertisements those unjust attacks upon their neighbours, or I shall make it my business to apply to the "patrons," severally, to ascertain how far such conduct will continue to obtain their sanction, when they become fully acquainted with the facts. I am, Sir, your very humble servant,

GEORGE BODINGTON.

Driffold Asylum, Sutton Coldfield,
Jan. 17, 1839.

* We cannot perceive anything resembling a "monopoly" in the constitution of the Denham Hall Asylum.—ED. L.

* Wholesale statistical assertions of this nature are of little value, and instead of clearing up the subject of insanity, are calculated to involve it in further obscurity. It is obvious that the proportion of cures in any given number of cases of insanity will mainly depend on the form of the malady, and its acute or chronic nature.—ED. L.

APPRENTICESHIP TO ILLEGAL MEDICAL PRACTITIONERS.

To the Editor of THE LANCET.

SIR:—That portion of the leading article in THE LANCET of Jan. 5 which refers to unqualified practitioners requires to be noticed. It seems to me to be not a little extraordinary that even *ten* men of sense and education should address you every year upon the question of the legality or illegality of an individual exercising the functions of a general practitioner, who has not served an apprenticeship of five years to "an apothecary," because the terms of the Act are so clearly expressed that no one, I should have thought, could have misunderstood their meaning. I am afraid that your estimate of the aggregate number of illegal practitioners in England and Wales is much too low, if I may judge from the number who are suffered to pursue their nefarious course in "silly Suffolk" alone. I purpose, in my present letter, to give you a short outline of an individual of this class.

In the early part of 1829, Mr. ——, who was at that time verging upon forty years of age, and who had, during the season of 1827-8, been "studying" at Guy's Hospital, passed his examinations at the College of Surgeons and Apothecaries' Hall; but how it was possible that he could do so I cannot divine, for knowing, as I did, some little of him during his sojourn in London, I have no hesitation in saying that he was about the dullest of the dull. It is, or was at that time, the practice at Guy's, to hold examinations of those pupils who were about to present themselves at the College or Hall, and on one of those occasions, at which I was present, the Esculapius in question being requested to describe the humerus,

began to give a most lucid description of the *two* heads of that bone. Nor was this merely a *lapsus linguæ*, for he was unable to correct himself, and it called forth the remark from the then demonstrator, that the aforesaid Mr. —— could not have *one* head of his own. Be that as it may, he passed both Hall and College, and is *now practising in East Suffolk*. But hereby hangs a tale; this very individual *never served an apprenticeship*, for all the early period of his life was spent *at sea*, and he came on shore with the rank of "lieutenant," and he subsequently followed the separate occupations of *bookseller* and *wine merchant*, and to this very day I believe he receives half-pay as a *lieutenant* from the public purse. No sooner had our hero escaped from the searching scrutiny of the men in Lincoln's-inn-fields and Blackfriars, than, an opportunity offering, he got into practice, and here do I believe it would be possible to "unfold a tale, whose lightest word * * *;" for he immediately became surgeon(!) to twelve agricultural parishes, with an aggregate population of nearly 5000 souls, and he is now an "Union doctor!"

But I wish to submit a point for your consideration, one on which I am desirous that you should speedily express your opinion, for the subject is of great importance, not only to the rising race of surgeons but to *parents* also. Although such men as the hero of this epistle have not been apprenticed themselves, they are, notwithstanding, in the habit of taking apprentices, duly indentured. *Can, therefore, young men so circumstanced, if they pass the required examination, be considered to be legally qualified?* My own opinion is, obviously not. It is, however, a subject on which parents should be quickly and well informed. I am, Sir, yours truly,

WM. HEMPSON DENHAM.
Shrubland Cottage, Wickham Market,
Jan. 9, 1839.

*** The Act renders an apprenticeship necessary in the case of every person who was not in practice as an apothecary before the 1st of August, 1815, and an apprenticeship to a half-pay lieutenant, a bookseller, a wine-merchant, a clergyman, a quack, or any other person who may be practising medicine illegally, will not qualify the apprentice to receive "an examination for a certificate to practise as an apothecary."—ED. L.

UNNECESSARY AND IMPERFECT INQUESTS AT THANET AND MINSTER.

To the Editor of THE LANCET.

SIR:—As you have recently adopted the very excellent step of putting on record cases in which coroners' inquests have been reduced to a mockery by the officious economy of coroners, you may, perhaps, consider the following facts sufficiently important to be added to the list:—

On the 25th of Dec. last, one of the surgeons of the Thanet Union Workhouse, Mr. T. A. Freeman was summoned to attend an inmate of that workhouse, who had fallen into an apparently apoplectic fit while attempting to swallow a piece of beef. Mr. Freeman found, on passing the probang, that the piece of beef was impacted in the œsophagus, and he readily effected its descent into the stomach; but animation had ceased, and the man was dead. These facts were communicated to Mr. Sackett of Ramsgate, the Chairman of the Board of Guardians, who considered it to be a proper case for a legal inquiry. The Coroner was accordingly summoned, and an inquest, so-called, was holden over the body, the verdict of which was, that the man had "Died by the visitation of God." The only two witnesses examined were two old paupers, neither of whom was present when the accident occurred. The surgeon was not called, although he had made a minute post-mortem examination, expecting that his opinion would be asked. During the inquiry, one of the jury inquired "What the doctor thought of it." The Coroner, (a Canterbury attorney, named Delasaux) replied "That doctors were like lawyers; they did not give their opinion without being paid for it." The medical opinion was *therefore* dispensed with, and the consequence was, as it must generally be, that the verdict was, according to the common signification of the terms, directly contrary to the truth.* The jury went away with the impression that the man died from an apoplectic fit, brought on by natural causes; whereas, he was suffocated by the impaction of a substance in his œsophagus, and his death was, to all intents and purposes, violent and unnatural.

A few days before this, an inquest was holden by the same attorney, over the body of a stone-mason named Cull, an inhabitant of Ramsgate, who was found dead in a ditch, in the parish of Minster. The cause of death in this case, as officially stated by the Coroner to the Registrar of the district, was, that Mr. Cull had "drowned himself." This verdict was also arrived at without any medical inquiry, although there were some facts which might very reasonably have induced a suspicion that some other hands than his own had been employed. These facts were,

1. That the body was found in a ditch which was scarcely two feet deep, and certainly not sufficiently deep to drown a man, unless he had made an almost superhuman effort to effect his purpose.

2. His hands and feet were tied.

3. There were some unnatural marks about his neck.

4. He was a very respectable man, and not unlikely to have had money at the time in his possession.

The evidence on which the verdict was grounded was, that he had previously been in a depressed state of spirits, and that he had left a note on his table intimating his intention to destroy himself. These two circumstances *appear* to render the case very clear; but if it should eventually be shown that the man was poisoned, or murdered in some other way, such circumstances as these would be capable of a very ready explanation. The latter of the two might have been an ingenious contrivance of a murderer. At any rate, the jury did not, and without a medical inquiry could not, know that the man was not poisoned or strangled; and without having had the best opinion on such grave possibilities as these, they were tampering with the serious character of their office in asserting that he had "drowned himself." Of course juries, in these cases, act always in accordance with the Coroner's instructions.

I am acquainted with two other similarly imperfect inquests, which have been holden in the same village of Minster, since the passing of the Act for the Remuneration of Medical Witnesses. One was over the body of a woman who was found hanging, and the other was held on the body of a child that was found burnt. The same provincial attorney presided at each of them, and singularly enough, before the existence of the above Act he invariably summoned medical witnesses to inquests in that neighbourhood. It appears that he now omits them because, like lawyers, they do not give their opinions "without being paid for them." I am, Sir, your very obedient servant,

JAMES FREEMAN.

25, Charles-street, City-road, Jan. 15, 1839.

*** Each of these cases, especially the last, affords a proper opportunity for remonstrating in the right quarter against the payment of a fee to the Coroner who so held the inquest. And with regard to the Medical Witnesses' Act, we again repeat, that prior to the existence of that statute, the Delasaux's and the beadles of the day were in the habit of summoning surgeons to attend inquests, in the most insulting and useless manner, with a certain knowledge that remuneration would not follow the attendance of the witness. Medical men are now at least preserved from that species of annoyance and injustice. The neglect of duty by the Coroner forms the subject of another question, and that functionary, like all other officials, is amenable for his misconduct to the law, or liable to be mulct of his fees, on due representations being made in the proper quarter. Here is the remedy for unnecessary and imperfect inquests.

SUGAR IN THE BLOOD OF DIABETIC PATIENTS.

To the Editor of THE LANCET.

SIR:—I cannot for a moment suppose that the blood of Sharper, my diabetic patient, contained any saccharine matter (vide LANCET, Aug. 4, 1838); at the same time I do not dispute the results in the cases adverted to by your correspondent "D," more especially since I have been informed, from the best authority, that Mr. M'Gregor of Glasgow is an accomplished chemist. (Vide LANCET, Aug. 11, 1838). I cannot find that the paper alluded to by your correspondent was ever published; nor was the name of Mr. M'Gregor known to me before the notice of your correspondent. I am better pleased by the process adopted by Mr. M'Gregor than that of the Italian chemist, Ambrosini; for in animal chemistry we ought, at all times, to adopt the most direct and simple processes, from obvious reasons. In looking, a few days ago, into the seventh volume of the French translation of Berzelius' "Chemistry," printed in the year 1833, at page 80, I found the following paragraph on the subject in question:—

"On a multiplié aussi les expériences chez les personnes affectes de diábetes, maladie durant laquelle l'urine devient sucrée, pour retrouver le sucre diabetique dans le sang, mais jamais on n'en a découvert la moindre trace."

The experiments of Ambrosini and M'Gregor were, I believe, performed since the above was written by Berzelius; nevertheless, the paragraph is so decided that I consider it my duty, with your permission, to lay it before the readers of THE LANCET.

Permit me, Sir, in conclusion to remark, that I would feel better pleased if accomplished correspondents (such as the gentleman who signs "D,") were to add their names to their communications. This is a practice which I follow in my efforts to throw light upon obscure points in my profession. I remain, Sir, your obedient servant.

W. REID CLANNY.

Sunderland, Jan. 17, 1839.

ROYAL INSTITUTION.

Friday, January 18th, 1839.

ELECTRIC PROPERTIES OF THE RAIA TORPEDO, GYMNOTUS ELECTRICUS, AND SILURUS ELECTRICUS.

MR. FARADAY delivered this evening a lecture to a crowded audience on the electric powers of certain animals. He disclaimed, on the very threshhold of his discourse, any intention of reducing to a material standard the "principle of life," or divine *scintillula,*

which emanates immediately from the Diety. That constituted a subject which was not in the province of the experimentalist.

The power of giving a shock, or of exciting a "physiological commotion" in the animal frame, possessed by the torpedo, the gymnotus, and the silurus, was observed at an early date by philosophical inquirers, and an analogy was detected between this phenomenon and the shock occasioned by the passage of common electricity through the bodies of animals. The views of these inquirers possessed no great interest until the researches of Walsh, Hunter, Cavendish, Sir Humphry Davy, and more lately of Matucci, Linari, and Dr. John Davy, have succeeded in proving the identity of animal with general electricity. Sir Humphry Davy, a short time before his death, instituted a series of experiments on the torpedo, and the conclusion to which he was first led was that the two principles were not identical. But his mind was not satisfied with the result of his investigations, and he requested his brother, Dr. John Davy, to continue his experiments, with a view to determine the truth or falsehood of his conclusion. Davy being appointed to the medical care of the garrison of Malta, had great opportunities of pursuing his researches into this subject, as the adjoining seas abound in this species of ray. By placing a wire in contact with the under surface of the electric organ of the animal, and another with the upper surface, he obtained electric results; he succeeded in decomposing hydriodate of potass, in deflecting the galvanometer, and in imparting magnetic properties to a needle. Matucci and Linari, however, succeeded in obtaining an augmented temperature in the wire, and in producing the electric spark. Dr. Davy conjectured that the electric power of the animal was modified by its age; the younger the animal was, he thought the more its electric organs approached in character to the electrifying machine; the older it was, the nearer it resembled the voltaic battery.

Mr. Faraday had recently performed many experiments on the gymnotus electricus now in possession of the proprietors of the Adelaide Gallery, and had satisfied himself that the cause of the electric phenomena in that animal is the same principle as that, the properties of which are exhibited by the electrifying machine and the voltaic battery. He had produced chemical decomposition, deflected the galvanometer, imparted magnetic virtue to a piece of iron, and even excited a transient elevation of temperature. The lecturer commented on the different conditions of the electric fluid when accumulated on the surface of a Leyden phial, when its tension is at the highest point; and when it is current in the voltaic circle, in which its tension is so feeble that it cannot overcome the resistance of half an inch of air. The truth of this assertion Mr. Faraday demonstrated by drawing a spark at the distance of eight inches from the conductor of a large machine; and by placing almost in contact the wires of a powerful voltaic battery, when no spark was produced.

Experiments had shown, he said, the identity of galvanism and common electricity, yet this remarkable difference was evident in their condition. The properties of the electric principle might be modified by various circumstances, and, as an example, Mr. Faraday exhibited an experiment:—A battery of eighteen large Leyden phials was charged, a circle was then formed with a view to the transmission of the charge through wire of very small diameter. In the circle a small pile of gunpowder was placed; the first charge was transmitted through a wet piece of string. The effect of this was so to retard the progress of the electric fluid or action that the powder was ignited, but the wire remained scathless. When the battery was discharged without the intervention of the humid string, the force of the battery was expended on the metallic wire, which was destroyed, whilst the gunpowder remained unignited. This difference of condition was as great as any existing between animal and material electricity.

It was remarkable, Mr. Faraday said, that the animals in which the electric power had hitherto been detected were inhabitants of the water. In those which lived entirely surrounded by air no such properties had been discovered. In respect to power of insulation, a striking difference existed between the material apparatus called the electrifying machine, in which moisture carried away the electrical matter, and the electric animals, where the power was generated and maintained in an organ surrounded by a fluid which is ordinarily an excellent conductor.

Mr. Faraday not liking the risk of bringing away from the Adelaide Gallery the actual *gymnotus* upon which he had experimented, had constructed an artificial gymnotus, upon which he exhibited the several phenomena he had succeeded in evolving from the living animal. The lecturer now dwelt upon the difficulty which existed in making evident the augmentation of temperature which was produced by the shock of the animal, and illustrated the fact by a very ingenious experiment. Contact being made with the poles of a galvanic apparatus the intervening platinum wire was heated to a high degree, when the contact was continued for a time, but if immediately broke off the augmented temperature was not made manifest. This occurred in a strong voltaic battery; it appeared, then, *à fortiori*, that the transient discharges from the electric organs of these animals must require great

nicety of manipulation to make evident the evanescent heat which they produce.

Having vicariously proved by his model that the leading properties of electricity were possessed by the gymnotus electricus, Mr. Faraday being supplied with several beautifully dissected torpedos and gymnoti by Messrs. Owen and Grant, demonstrated the structure of these animals. In the raia torpedo, the electric organ is double and is situated on each side of the spine. It consists of an aggregate of columns formed of thin laminæ of membrane, with intermediate cells containing fluid. These organs are kidney-shaped, and constitute a large portion of the raia; they are as thick as the body of the fish itself, and are covered, both on the upper and under surface, by the skin alone. In the gymnotus electricus nine-tenths of the length of the animal consist of the electric organ. In this animal the organ is composed of four columns running parallel with the spine; two thick columns and two slender ones. The arrangement of the constituent laminæ is the same in this long fish as in the flat one. In both animals the nerves supplying the electrical organ are of enormous size. They are derived from the pneumogastric and from the fifth pair of nerves, and constitute at least eight-tenths of the entire nervous system of the animal. Deprived of their electric organs both these animals are very small. The essential organs are supplied with nerves which bear a very small proportion to the chords which supply the electric organs. These nervous chords had been divided in the torpedo by Matucci, and the animal was not injuriously affected in consequence, but, on the contrary, its health was improved by being deprived of this source of irritation, and it was enabled to resist the operation of deleterious causes longer.

The electric power exhibited by these animals, Mr. Faraday said, was in the direct ratio of the nervous influence exerted by the animal. The electric action, like muscular action, was followed by exhaustion. It was after the exhaustion of the animal by repeated discharges that, in South America, the gymnotus was taken. In this condition the animals lying helpless on the surface of the pool, were drawn out by rakes. As the fatigue wore off they gradually recovered their electric strength. "It is thus evident," quoth the lecturer, "that nervous power may be converted into electric power, as clearly as that electricity may produce heat. Why may not the converse of the experiment be true, and nervous influence be generated from electricity, as electricity, after producing heat, may again be reproduced from heat? The nervous energy of the animal being consumed in the generation of electricity, our next experiment must be, by charging the electric organ of the exhausted animal, to reproduce the nervous energy. I have no doubt that this nervous power is as material as heat, light, or electricity, and is conducted along the nervous fibrils in the same manner as water, gas, or the electric fluid, is carried through pipes or conducting wires."

Mr. Faraday concluded his lecture, which was listened to with profound attention, by quoting a paragraph from the works of Priestley, from which it appears that that eminent philosopher anticipated the views now advocated by Dr. Wilson Philip, Mr. Macilwain, and others, as to the agency of electricity in the production of vital phenomena.

WESTMINSTER MEDICAL SOCIETY.

Saturday, January 19th, 1839.

Dr. Chowne, President.

NEW MACHINE FOR GIVING HOT-AIR BATHS.—CASE OF TETANUS.—INFLUENCE OF A DISORDERED STATE OF THE ALIMENTARY CANAL OVER TETANIC SPASM.—MODES OF TREATING TETANUS.—THEORIES AS TO ITS CAUSE.

Several members, and Mr. Costello in particular, passed high eulogia on the character and attainments of the late Mr. King, Vice-President of the Society. The notice which we gave of his career last week will render the report of the various speeches unnecessary.

An apparatus for giving a hot-air bath, invented by Mr. Kurtz, a chemist, at Liverpool, was exhibited to the Society, accompanied by a recommendatory letter from Dr. Epps. The letter stated that the machine had been extensively used in the maladies of horses with great success, and had been found to answer all the required purposes in the human patient. The apparatus is in the form of a large circular lanthorn, having wire-work surrounding it; a tin vessel, capable of containing about four ounces, is placed in the centre of the floor of the machine; into this vessel spirit is put and ignited; the patient is then covered by a blanket, and the process is finished. Iodine and sulphur baths, it was stated, could be given with great facility in the same mode, except that these substances should be placed *outside* the machine.

Dr. Golding Bird, in the absence of more important matter, drew the attention of the Society to a case of tetanus, in which he had observed one or two unusual circumstances, and which might, perhaps, suggest a plan of treatment in some cases of that formidable disease. On the 3rd of January, a sawyer, whilst at work with an axe, chopped the nail of the thumb of one of his hands, and also injured the adjoining finger. The wound was considered to be of little importance; he remained well until the 7th,

when, having got cold and wet the previous night, he felt chilly and feverish, and had spasmodic attacks with mild opisthotonos. He continued to get worse, and became delirious at night, and Dr. Bird was called to see him, for the first time, on Saturday, the 13th. He found him then labouring under most of the symptoms of common fever; but his chest was remarkably hot, and on placing the hand upon the abdomen, the recti were found in a state of great contraction, and opisthotonos immediately ensued; he then recognised the presence of tetanus. The bowels being constipated, a purgative of mercury and chalk, followed by a dose of castor oil, was administered. This produced six or eight stools, of a thick ropy mucus, with a very fœtid and feculent odour, and resembling the matter vomited up in scirrhous pylorus. The spasms immediately abated on the action of the bowels taking place, and the attacks, instead of occurring every five minutes, did not now come on in less than half an hour. This remarkable fact was exemplified throughout the case, the cessation of the spasm being synchronous with the action of the bowels, and returning when they were at all confined; the intervals between the spasmodic attacks became longer, and the man is now (the 19th) in a fair way of recovery. In the treatment of this case, in addition to purgation, small doses of calomel and opium were given, and it had been the intention of the narrator, had there not been so great an improvement, to have given quinine, as the only patient he had known recover from tetanus, was one whose case was recorded in "Guy's Hospital Reports," and who swallowed enormous quantities of that medicine. The evacuations are now of a more natural character. The nail of the thumb which had been injured, appearing to act as a source of irritation, was removed, and the wound, which was sloughing, dressed with a poultice containing black wash and opium. On touching the thumb now the spasm is produced, but not on touching any other part of the body. The pulse which, in the intervals, at first, ranged between 100 and 140, is now between 90 and 95, compressible and jerking, in fact, the pulse of irritation. There is an interval of several hours between the spasms, which are now less violent. Throughout this case the muscles of the jaw had never been so firmly contracted as was usually observed in tetanus. He recollected no case in which the spasmodic attack appeared to depend so entirely upon the state of the bowels. He thought that in formidable diseases, like tetanus, we were too much in the habit of trusting to specific remedies, and neglecting, or overlooking, the common principles of treatment.

Mr. Bushell said, that tetanus existed under two forms, the acute and chronic; the former frequently terminated in a few hours. When, however, the disease became chronic, it might go on for a week, ten, or even sixteen days, and recovery then generally took place. He recollected a case in St. George's Hospital, in which the spasms continued for fourteen days. The cases were treated by purgatives, calomel and opium, and turpentine enemata; the latter seemed to afford great relief. In all the cases he had alluded to, the jaw was firmly fixed. He had seen an instance of acute tetanus, arising from a punctured wound of the posterior tibial nerve, which proved fatal in forty-three hours.

Dr. Williams should be fearful of trusting to treatment on common principles in so obscure and puzzling a disease as tetanus, as we were in total ignorance of its especial seat or nature. The long intervals between the spasms in Dr. Bird's case were a favourable omen. The disease in the acute stage was generally fatal in consequence of the muscles of respiration becoming affected by spasm and asphyxia being produced; when more chronic, however, a variety of causes might produce a fatal termination. The case of Dr. Bird was interesting as exhibiting the remarkable effect of intestinal irritation, and its removal, over the disease in that case at least. In fatal cases he had found the pulse to maintain its frequency, keeping as high as 120, nearly till the last moment. The decline in frequency of the pulse, if it continued, was a favourable symptom. The most unfavourable one was the permanence of the irritation, for when there was a cessation of this it proved that the spinal column was not the original seat of the affection, but that the mischief was reflected from some other source, as in this case it was from the alimentary canal. How far did this occur in other cases? He had never seen an instance in which the spasm seemed to bear so great a relation to the condition of the alimentary canal as it did in this.

Mr. Roderick said, that in acute tetanus, a touch upon any part of the body would produce spasm. The case of Dr. Bird illustrated the origin of the disease from an incised wound; generally, however, it was produced by a puncture. Nothing was usually found to account for the symptoms of tetanus. He had, however, in one case, seen the portio dura much enlarged, when a blow on that nerve gave rise to an attack of the disease.

Mr. Streeter had been struck with the variety he had observed in the symptoms accompanying different cases of tetanus,—both with regard to their commencement, progress, and termination. In one case it terminated by effusion upon the brain. He had also seen two cases in St. Thomas's Hospital: one, which arose from cold, became chronic, and recovered; the other was

produced by a wound, and was fatal. A case at Guy's, from a lacerated wound of the hand, recovered on the removal of a splinter and the use of ammonia and musk. Purgatives were given freely in warm climates in all wounds likely to produce tetanus,—trismus in young children was often cured by purgation.

Dr. BIRD was aware of the cases related by Dr. Hamilton, in which spasms were relieved by purgation. Dr. O'Beirne recommended washing out the bowels by injections to effect the same purpose. He (Dr. Bird) had, however, never seen a case in which the spasm seemed to depend so much upon the state of the alimentary canal, as in the instance he had related. Generally speaking, in the acute stage of tetanus, the object was to keep the patient alive till the disease became chronic, the administration of purgatives being avoided from fear of depressing the patient.

Mr. SNOW was afraid that tetanus did not always depend on the state of the alimentary canal; but the fact that no other case had been seen by Dr. Bird in which purgatives produced so beneficial an effect, as in the one he had recorded, favoured this opinion. In the absence of any theory which explained the phenomena of tetanus, he suggested that it might possibly depend upon an alteration in the condition of the blood. He thought the irritation of a wound might so interfere with digestion and assimilation generally, as to materially alter the state of the circulating fluid; the alteration in the state of the wound accompanying tetanus also supported this idea. Diminution in the quantity of the blood produced convulsions; might not deterioration of its quality do the same? Tetanus was sometimes caused by cold, and severe cold was one of the most debilitating agents known. Dr. Bardsley had related a case which very much resembled hydrophobia, occurring in a weaver who had been working hard for some time without food. Great excitability often accompanied anemia.

Dr. BIRD thought it quite as possible for tetanus to depend on an altered state of the fluids as upon the state of the nervous system. Disordered secretions might act upon the sympathetic system, and this, again, might produce disorder in the spinal nerves. The fact, that in almost all cases of tetanus the urine was alkaline, favoured the doctrine of Mr. Snow.

Dr. JOHNSON considered that all the theories advanced concerning tetanus left us as ignorant as we were respecting it. The only thing we could do, rationally, in this and many other diseases, was to treat the symptoms; for, however much such treatment had been laughed at, it was now found to be the most successful. What did theory avail us, for instance, in tetanus? Suppose it did depend on the fluids being vitiated, we did not know in what that vitiation consisted. How, then, could we act? We could only let the patient die, and the nurse and undertaker do the rest. He thought that facts were against the idea that tetanus depended on the condition of the fluids; for instance, the larger the wound the less likely was it to produce tetanus, and the stronger and healthier the individual, the more fatal was the disease. It had been said that tetanus was produced by cold; but in hot climates, where the disease was so prevalent, it was not long exposure to cold, but its sudden application for a few minutes, that gave rise to the disease. In these climates costiveness was a remarkable symptom of the affection; the stomach, too, was generally disordered; strong purgatives were the usual remedies.

Dr. L. STEWART thought, that in all cases of tetanus the fluids were altered in character in some way or the other.

Mr. MARSON had seen a case of tetanus arising, in a child, from a disordered state of the bowels.

Dr. BIRD had been informed that idiopathic tetanus was treated in Barbadoes by the passage of a seton through the perineum.

After a few more remarks on tetanus, a conversation ensued on secret remedies, but as we have no inclination to forward the views of interested individuals, we shall not occupy our space with the observations which were made on the subject.

LONDON MEDICAL SOCIETY.

Monday, January 21st, 1839.

Mr. BRYANT, President.

FEVER.—MODE OF PREVENTING THE DEFORMITY FROM SMALL-POX PUSTULES.

The meeting was but very thinly attended.

The PRESIDENT stated that fever of a low type prevailed at the present time to a great extent in Lambeth Workhouse. The disease presented no unusual symptoms, excepting that of remarkable depression, and the consequent early indications for the employment of stimuli. After the bowels had been cleared by an alkaline mixture, he had found, particularly in old people, when the tongue became brown, the skin moist, and the cerebral functions disturbed, that no kind of treatment was so successful as the cautious administration of stimuli; and of these he had given ammonia, wine, and, in some instances, brandy. Under this treatment cases, apparently hopeless, had rallied and recovered. He had many cases of a similar kind of fever in his private practice, but these were not of so fatal a character. None of them, however, would bear anything like the employment of depletory measures. There were two periods, every year, at which

fever made its appearance in Lambeth Workhouse, one at the present season, the other in the Spring. The fever, at present epidemic, bore no kind of similarity to the eruptive fever which was so prevalent throughout London six or eight months ago.

Dr. BENNETT inquired if there were any endemic causes to account for the regularity in the appearance of fever as occurring in the locality mentioned by Mr. Bryant? He (Dr. B.) considered that such causes must be in activity in all cases where the return of fever was so regular.

Mr. BRYANT knew of no circumstances calculated to give rise to the disease, excepting the low situation of Lambeth, and the influence that rainy seasons would exert in developing the depressing effects of miasma.

Mr. DENDY said that the most important point in the treatment of fever was to keep clear of extremes; not to deplete to an extent which would render the convalescence long and tedious, or that would reduce the strength of the patient in an undue degree, at the same time to be careful in not overlooking the necessity of depletory measures when any particular organ became affected. Many had said that there could be no general excitement without local inflammation; but he believed that, to a certain extent at least, there might. He had, at present, no case of fever in his private practice, but a great number among his dispensary patients; these were characterised, as was generally the case in wet weather, by excessive debility, and no depletory measures were called for. When he was parochial surgeon of Christchurch parish, fever made its appearance regularly twice a year; but it was not of a fatal character. The treatment in the adult required to be more active; that in the aged, more cautious. One year, however, it assumed a malignant character, and it became necessary to administer camphor. This was the season following the occurrence of the cholera in the metropolis; and it was a curious fact, that in every district in which cholera had prevailed, there the fever prevailed also, proving that locality had something to do with its production.

After a few more general observations on fever,

Dr. P. HENNIS GREEN called attention to a mode of preventing the deformity consequent upon confluent small-pox. The plan consisted in the application of the mild mercurial ointment, thinly spread upon linen rag or lint, over the surfaces, on the first, second, or third day of the eruption. This application had the effect of preventing the full development of the pustule, and of transforming it into a vesicle, or aborted pustule, similar to that which occurs during the varioloid eruption. He had himself tried the plan in one case only, and in this the ointment was applied to the arm of the patient; the result was perfectly successful. He had also seen seven or eight instances in which it succeeded on the Continent. In these cases the face, arms, or legs were the parts to which the ointment was applied. The treatment was by no means new. Rosen had mentioned it in his work upon the diseases of children; Lettsom speaks highly of it in a work published in 1774, and states that it stops the growth of the pustule. The plan was also followed by Serres, but he had abandoned it for his mode of puncturing the pustule with a needle—although the application of the ointment was a more successful proceeding. What effect the use of the ointment might have on the general disease it would require experience to determine.

Mr. DENDY thought that it was the duty of the Society to take up the subject of small-pox, agitated as was the public mind respecting it. He thought the mode of treatment mentioned by Dr. Green of great value, and one which he should certainly put into practice. In addition to the prevention of deformity, if it cut short the process of maturation, it would also prevent the secondary fever consequent upon that stage of the disease, and also its dangerous results. For the prevention of deformity in small-pox he had been in the habit of taking off the top of the pustule with a needle, and applying the nitrate of silver, but this was a tedious plan, though he had found it a successful one.

Dr. BENNETT, recollecting the pathology of small-pox, thought that any interference with the regular progress of the pustules would be attended with danger, and would determine the disease to some internal organ. Part of the danger, he admitted, in small-pox, arose from the process of suppuration, but there were other causes to produce a fatal termination; the eruption was merely the outward sign of what was going on in the system, and the specific cause which induced the disease would not be removed by the interference with the suppurative process, which was, in fact, the effort Nature made to throw off the disease.

Dr. GREEN said that in none of the cases which he had seen did any bad effects follow the use of the ointment. How far the application might, with safety, be made to the whole body, was another question which had yet to be determined. The period of greatest danger in small-pox was the stage of suppuration; the secondary fever produced by which being the cause of most of the fatal cases of the disease. The prevention, therefore, of the inflammation which preceded the suppurative process was of the greatest importance.

Mr. DENDY agreed with Dr. Bennett that the pustules in small-pox were only the signs of what was going on within; but after the fever had gone on for two or three days there was a kind of interregnum, and

the fever subsided; the prevention of suppuration was the cutting short of this interregnum, not thwarting Nature in her efforts, but rather preventing her from carrying them to a mischievous extent. The reason why varioloid disease was so innocuous consisted in the fact of its having no secondary fever. In the cases, however, in which secondary fever did occur in this disease it renders it malignant. Mr. D. then inquired whether any member had tried the experiment of shutting up a patient, with small-pox, in a dark room, to prevent pitting from the disease?

Dr. SEVERN said that Mr. Ward, as some manuscripts in the Society's library testified, had spoken of this latter plan two hundred years since; and said that the parts of the body which were covered did not pit; it was probable that covering the face would prevent deformity in that part. Mr. Ward had also foreseen the good effects of cold in small-pox, in consequence of his observing its influence on people affected with the disease who went to the pump to wash.

After a few more observations the Society adjourned.

BRITISH MEDICAL ASSOCIATION.

Meeting of Council, Tuesday, Jan. 22.

Dr. WEBSTER, President, in the Chair.

MEMBERS OF COUNCIL PRESENT.

Mr. Crisp,	Dr. Marshall Hall,
Davidson,	Mr. Harrison,
Eales,	Hooper,
Farr,	Howel,
Dr. Hennis Green,	Liston.

The minutes of the last meeting having been read and confirmed,—

Francis Cooper, Esq., L.R.C.S.E., Southampton,

John Buchart, L.R.C.S.E., Bombay Service,

were elected Members of the Association.

A donation of ten guineas was presented by Sir Astley Cooper, Bart., to the Benevolent Fund.

The PRESIDENT mentioned that the Sub-Committee on the National Faculty question had nearly completed their Report, and that it would soon be brought before the Council.

An extract from the "Gloucester Journal" was read, containing an account of the Report of the Anniversary Meeting of the Stroud Branch Association.

The Report of the Medical and Surgical Society of Newcastle-upon-Tyne, on the present state of the medical profession, was read and commented upon.

A letter from the Glasgow Medical Association was read, of which the following extract will show the bearing:—

"Our attention has been lately occupied with certain movements upon the part of the Scotch Corporations, which, under the guise of improvement and reform, include certain most insidious attempts upon the rights of existing medical practitioners; a committee has, however, been appointed to watch the steps of those bodies, and you may rely upon being early apprised of the result of their labours."

A letter from Dr. Mann Burrows was read, in which was suggested the propriety of combining the Benevolent Fund of the Association with the Medical Benevolent Fund which already existed in London. The Council decided that such a plan could not be entertained for the present; the only contingency which might render it practicable was the dissolution of the Society on the attainment of the objects for which it had been constituted.

A printed document was received from Edinburgh, relative to the education and privileges of graduates, from the medical and surgical professors in the University, Royal College of Physicians, and Royal College of Surgeons.

Some discussion then took place relative to the vacant Coronership for Middlesex.

Dr. MARSHALL HALL observed, that it was almost universally admitted that no person was so well fitted to fill the office of Coroner as a medical man, and that amongst medical men no one could be found more capable than Mr. Wakley. He, therefore, thought that energetic measures should be adopted to ensure the return of Mr. Wakley, in case he should be prevailed upon to become a candidate on the present occasion. Dr. HALL then moved,—

1. That, in the opinion of this meeting, the duties of the presiding officer at coroners' inquests imperatively require that persons holding the situation of Coroner should have received a medical education, that by thus being enabled to estimate the value of medical evidence, they may be competent to render to juries the assistance of a sound judgment in deciding, in doubtful cases, on the cause of death in the inquiries before them.

The resolution was seconded by Mr. HARRISON.

Moved by Mr. DAVIDSON, and seconded by Mr. LANE, and unanimously resolved,—

2. That the members of this Association, being well acquainted with the professional and general qualifications of Mr. WAKLEY, his knowledge, judgment, integrity, and great skill in medical jurisprudence, are of opinion that the interests of the community, and the science of forensic medicine, will be greatly benefitted by his election to the office of Coroner for the Western Division of the county of Middlesex, and therefore call upon him to come forward as a candidate on the present occasion.

Moved by Mr. HOWEL, and seconded by Mr. HOOPER, and unanimously resolved,—

3. That in accordance with the opinions expressed in the foregoing resolutions, the members of the British Medical Association pledge themselves to support the election of Mr. WAKLEY to the above office, at the present vacancy, and call on the freeholders of Middlesex, and all the members of the medical profession resident therein, to support the nomination of that gentleman by their votes and influence.

Moved by Mr. FARR, and seconded by Mr. CRISP, and unanimously resolved,—

4. That an appeal be immediately made by this Association to the members of the medical profession throughout the United Kingdom, respectfully representing to them the duty which they owe to themselves, and to Mr. WAKLEY, as the long tried, able, and faithful advocate of their best interests, of furthering, by a general subscription, the election of that gentleman free from expense.

PARISIAN MEDICAL SOCIETY.

AN English Medical Society, bearing the above name, has been recently instituted at Paris, and already includes on its list between ninety and one hundred members. At one of the late meetings Sir R. Chermside was elected President, and J. Godfrey, Esq., Vice-President, for the present year. We would have noticed before this the existence of the Parisian Medical Society, the objects of which we cordially approve, had not the communication of a correspondent on the subject been accidentally mislaid. The Society holds weekly meetings, at which papers are read upon medical subjects, and discussions take place in the *English language*. These meetings are peculiarly interesting, as medical men from London, Edinburgh, Dublin, and different parts of America, join in the proceedings, as well as some of the "externes" and "internes" of the Parisian hospitals. The Society has established a reading-room for the English and French periodicals, and the nucleus of a permanent library is already in existence.

UNIVERSITY COLLEGE HOSPITAL.

DISEASE OF THE KNEE-JOINT REQUIRING AMPUTATION.

E. M., aged nine, was admitted September 13, 1838, under the care of Mr. Liston.

She is of a scrofulous constitution, having enlarged glands at the side of the neck. About eighteen months ago she fell, and struck the outside of the left knee against a stone. The general symptoms of local inflammation followed, which were subdued by leeching, blistering, and the usual antiphlogistic treatment. In the course of some weeks she walked about, but the joint still remained tender and painful. Eight months ago she had a second fall, followed by injury of the same knee; inflammation again came on, for which the above remedies were again resorted to, but afforded only temporary relief. The swelling, &c., continued to increase, rigors occurred, followed by hectic symptoms, and she was in this state sent to the hospital.

Present Symptoms.—Great enlargement of the knee and lower half of the thigh; heat and redness of the surface, especially on the inner side, where fluctuation is most plainly perceptible about an inch and a half above the joint. The limb is fixed in the flexed position, being at right angles with the thigh, incapable of extension or greater flexion, but allowing of a considerable degree of unnatural lateral motion. There are two ulcerated spots in front of the leg, the uppermost of which leads to the patella, which is found by the probe to be bare and rough. General health is much deteriorated; her face presents a hectic flush, and exacerbation takes place every evening; pulse 107; tongue clean; bowels regular; appetite varies.

Sept. 15. Inflammation somewhat less about the joint, owing to the limb having been kept perfectly at rest. Ordered a nourishing diet.

19. Mr. Liston made an opening into the most prominent part of the swelling on the inner side, from which about half a pint of matter escaped, tolerably healthy in appearance, but very thin.

21. Knee much easier, and the swelling much diminished; hectic and general symptoms much the same.

24. Continues much as last report; discharge from the abscess very profuse, and strength appears diminishing. To have a tonic draught of quinine, infusion of gentian, and sulphuric acid, three times a day.

28. Health rather better; friends refuse to consent to amputation of the limb.

Oct. 3. The friends having at length consented to the operation, the patient was to-day carried into the operating theatre, and placed upon the table. Mr. Liston, after having stated that, from the high extent of the abscess, it was probable that a portion of the cyst would still remain, performed the operation in the usual manner, making an anterior and posterior flap, the former of which, as he had anticipated, consisting partly of a portion of the cyst. Little blood was lost, but six vessels required ligature; lint, dipped in cold water, applied between the flaps. In the evening Mr. George ligatured another small artery in the anterior flap, and the surface being

glazed brought the edges of the wound together, by means of three sutures and slips of isinglass-plaster. To have an anodyne.

4. Passed a very good night; stump looks well, and appears inclined to unite by the first intention.

5. Going on well; suppurative discharge from the ankle occupied by the suture, especially the outer one.

31. Going on favourably since the last report; general health excellent; wound entirely healed, with the exception of a small part of the cyst which remained.

Went on well from this date, and left the hospital, cured, in a very short time after.

ST. GEORGE'S HOSPITAL.

STRANGULATED FEMORAL HERNIA.

A WOMAN was admitted October 13th, at 5, P.M., with symptoms of strangulated hernia. The taxis was diligently employed for her relief for some time, but without avail, and, at seven o'clock, summonses were sent to all the surgical pupils residing within a mile of the hospital, stating that the operation for hernia would be performed. This was done in the usual manner by Mr. Hawkins, assisted by Mr. Babington. After the patient had been carried out of the theatre into the ward, Mr. Hawkins made the following observations on the case to the pupils who were present:—

"This woman, Gentlemen, has had, from her account, a femoral hernia of the right side for some time past, but the symptoms have greatly increased since last Sunday, on which day it appears that the bowels were acted upon freely for the last time. Within the preceding 48 hours stercoraceous vomiting has supervened. She has had but little done for her previous to her admission here, but I understand that she has taken a very large quantity of purgative medicine, which, of course, as you can well understand, has not been of any service to her. On her admission it was found that she had none of the more urgent symptoms of strangulation; her countenance was free from anxiety, her mind calm and placid, and she has not vomited since she has been in the hospital. But I found, also, that there were symptoms which warranted me in performing the operation,—I allude particularly to there being some slight tenderness of the belly present, a tongue which was dry and turning brown, and a pulse at 116. With respect to the operation itself, you must have noticed the difficulty which I had in releasing the stricture. I was unable to introduce my nail between the inner edge of the stricture and the outer edge of the intestine, and if I had used force in introducing the director, I might have perforated the intestine. The cause of this arises from the acute angle at which the stricture occurs in femoral hernia. I found that the protruded intestine was gorged with blood, and it readily returned into the cavity of the abdomen when the stricture was divided."

"With respect to the prognosis of this case, we have to look for peritoneal inflammation, which, however, in this case I do not think will occur. The action of the bowels will return, and I hope that the protruded portion of intestine will recover its proper propulsive function. Should not the bowels act in a short time, I shall feel disposed to give her some calomel and opium, which will most probably have the desired effect."

These agreeable anticipations were not, however, realised. On the following day her countenance was anxious, the pulse upwards of 100, and the abdomen tumid and swollen. These symptoms continued on the increase for several days; her strength sunk, and the neighbouring parts around the wound sloughed; delirium soon set in, and death rapidly followed.

On examining the body after death the peritoneum was found in a low state of inflammation, without any adhesions between the intestines. The peritoneal cavity contained some serous fluid, with flakes of coagulable lymph. The wound and contiguous textures were in a sloughing state.

CLINICAL REMARKS BY MR. HAWKINS ON MORBID AFFECTIONS OF THE INTERNAL STRUCTURE OF THE NOSE.

The first and most common of these is inflammation of the Schneiderian membrane. Now, there is some disposition to this in common catarrh, in which, where the secretion of fluid and mucus is great, there is a foundation laid for other diseases of a more severe and permanent character. Scrofulous children are very liable to chronic inflammation of the Schneiderian membrane, which resembles in its symptoms a polypus of the nose; but you may easily distinguish the one from the other, by remembering that in polypus the swelling is on the outside, from the spongy bones; whereas, in chronic inflammation of the Schneiderian membrane, the swelling arises internally from the septum. On looking into the nostril you find the lining membrane red, swollen, and generally excoriated; there is a discharge of mucus and pus, causing obstruction of the nostrils, and affecting the respiration, and the first thing which draws the attention of the patient's friends to the affection, is from the child snoring at night. The little patient lies with his mouth wide open, which causes great thirst and chapped lips. You will generally find that, combined with this affection, there may be swelled glands in the neck, and the upper lip sometimes swollen to three times its natural size. Such an affection as this is very easily cured. Give

your patient alteratives, tonics, and purgatives, such as equal parts of powdered rhubarb and mercury with chalk, or rhubarb and tartrate of potash; or you may join this latter salt with Columba powder and steel; you may give also one drachm and a half of steel wine daily, or you may unite one grain of oxymuriate of mercury with two ounces of the compound tincture of bark, and give one teaspoonful three times daily. Local applications may be very appropriately conjoined with this constitutional plan of treatment. The nitrate of mercury ointment, diluted, may be applied by means of a camel's-hair brush to the nostrils. If the affection be situated at the superior part of the nostril this ointment may be applied to it, smeared on a piece of lint, fastened on a bougie; or the precipitated mercurial ointment may be used in the proportion of one part to three of spermaceti ointment; or the lunar caustic may be applied in solution. If this affection be neglected it may go on to form complete obliteration of the nostril, and it then becomes necessary to keep the nostrils open and wide apart, by introducing a metallic tube into the nose. Where this obliteration of the nostril is combined with much excoriation and ulceration, it will frequently resemble, in some degree, a congenital affection. Where this obliteration exists the best means of remedying it is to make an incision through the closing membrane, and keep the parts pervious by a bougie, covered with lint, and smeared with ointment. If the obstruction be very great, much caution will be required in dividing it, and if only one nostril be impervious it will still be necessary to divide it. Sometimes the nostrils will secrete a substance resembling imperfectly-formed cartilage, which sometimes takes the form and shape of the spongy bones, and at other times calcareous formations will occur in the nostril.

This affection of the nose is best treated by stimulants and tonics, such as sarsaparilla, arsenic, and the solution of potash, and stimulants should also be injected up the nostril.

The Schneiderian membrane is liable to a breach of surface. There may be an ulceration in the septum of the nose, forming an opening between each nostril, and this may occur without the patient being aware of it, except from his being troubled with symptoms which he refers to a common cold. This ulcerated opening may be very easily cicatrised, especially in its early stages. It is generally situated at the upper part of the nose, at the junction of the septum narium with the vomer, and causes intense pain in the nose and forehead. Abscesses sometimes form in this part, leaving an opening between the nostrils large enough to admit the point of the finger. These affections of ulceration and abscess are almost analogous with those occurring in the soft palate. If the anterior and cartilaginous part of the septum be affected the nose becomes flattened. There is but little constitutional disturbance in this affection. Local applications are most useful in these cases, and, of these, alterative stimulants are the most useful, such as the ointment of nitrate of mercury, or the same preparation of the white or red mercurial precipitates, or a solution of lunar caustic or sulphate of copper. Internally you may administer bitter and alkaline tonics.

Ulceration of the lining mucous membrane of the nose, or the ozæna of some writers, is also an affection which will sometimes be found very troublesome. It may either affect the septum or the cartilaginous circumference of the nostril. There is much pain in the nose and forehead, with some considerable disturbance of the constitution; the pulse ranges from 120 to 140, and the patient becomes weak and emaciated. These symptoms are not surprising, considering the anatomy of the parts affected, situated, too, so near as they are to the brain. Anything which tends to debilitate the constitution will bring on this disease, such as syphilis, or a cachectic or scrofulous state of constitution. Where it arises from the application of the poison of glanders to the part, it is, of course, more severe. Where ozæna is present, you find the mucous membrane dotted with small ulcerated patches, containing a yellowish substratum, around these the mucous membrane is red and injected, but not raised above the surrounding surface. These ulcers in time crust over, and the scabs fall off, leaving fresh ulcerated surfaces, the pain and inconvenience of which are extremely distressing to the patient. When this affection is severe, there are symptoms connected with it which may closely resemble syphilis, such as pustular eruptions forming on the face, accompanied with sore throat; or there may be ulcerative tubercles on the skin, rupial spots, &c. It is very rare, however, that you will find mercury agree with these symptoms. Tonics are generally the very best medicines that can be given. If the patient is very much weakened and debilitated by the disease, you will find it necessary to give him large doses of sarsaparilla for a considerable length of time, in the proportions of

Extract of sarsaparilla, one drachm and a half;

Compound decoction of sarsaparilla, twelve ounces.

After giving him this for some time, you will find the violence of the disease subside. You may also give a small dose of blue pill occasionally. Next to these remedies, the best that can be given are cinchona and nitric acid; or, if you please, you may combine the sarsaparilla with some arsenical liquor. The nostrils may be injected

with the black-wash or lime-water, or a solution of the sulphate of zinc and alum; or, if the disease be low down in the nose, it may be touched with lunar caustic, or sulphate of copper, or verdigris, or with any of the stimulating ointments of the Pharmacopœia. This affection becomes expecially severe where the nasal bones are affected, as they do not fall off as in common necrosis, but remain in an attached and carious state for some time. This disease generally and frequently attacks the poor.

HALF-DRACHM DOSES OF THE SALTS OF MORPHIA.

To the Editor of THE LANCET.

SIR:—I regret I have so long neglected to respond to your expressed wish, by communicating the following case, which, from the unusual degree of suffering and the quantity of anodyne tolerated, was notorious in the medical world here at the time:—

About twelve months since I attended Mrs. Yates, æt. 26, as a patient of our Dispensary, with a painful affection of the uterus, which proved, on examination after death, to be due to the extensive growth and pressure of melicerous deposit. At the first, full doses of acetate or muriate of morphine were required to afford temporary relief; but, in the course of a few months, she bore, with impunity, *scruple doses* in the form of pills; and, according to her own report, has at times taken *half a drachm*; but, as I never saw her take more than eleven pills at a time (each containing two grains), I will not vouch for the truth of the statement, though I believe it. The effect of these enormous doses was rarely to induce headach, but, at times, some delirium, with nervous excitability, and sleeplessness. It did not appear to interfere with her digestive functions, nor with the function of the lower bowels, excepting, occasionally, to induce diarrhœa.

At the acme of her excruciating torment (such I never have before witnessed), she bore the largest doses, repeated sometimes *twice* in the twenty-four hours, with hardly a symptom on the morrow which was traceable to the remedy, so entirely did the pain seem to neutralise the influence of the drug; but, as the powers of her system sank beneath her disease, she could not bear the larger doses, and smaller ones sufficed to relieve her to a degree.

In vain I urged her to abstain from such destructive doses, and tried other narcotics. Nothing but this remedy, in the fullest quantity, could render life other than a protracted agony.

I am confident that the drug was good, as I took the pains to give her specimens procured from different shops. I am, Sir, your obedient servant,

CHS. LINGEN, Surgeon.

Hereford, Jan. 16, 1839.

COMMUNICATION OF RABIES.

To the Editor of THE LANCET.

SIR:—In THE LANCET of the 22nd of last month is a letter from Dr. Silvester, containing quotations from Archæus and other ancient authors, to the effect that hydrophobia may be communicated by the saliva of a rabid dog falling on the sound skin, and that even the breath of such a dog is sufficient to communicate it; and Dr. Silvester tells us he believes the moderns have acquired a different opinion from the writings of Fracastorius and others, who came to their conclusion from an imaginary relation in size between the particles of the poison and those of the blood.

That a terrific disease may not be rendered doubly terrific, and to free the moderns from this opprobrium, I wish to state, that I believe the whole of medical literature does not contain the particulars of one well-authenticated case of true hydrophobia, where the poison had not been inserted by a bite, or placed in contact with the skin, where there was some wound or slight abrasion (of course a scratch would be sufficient); and that the best modern authors on this subject have arrived at their opinion from a careful examination of the history of cases; I may allude in particular to the article *Rage*, by MM. Villerme and Trolliet, in the "Dict. des Sciences Medic."

I have great veneration for the ancient fathers of medicine, but they would be liable to error on this point from the circumstance, that they had not learned that dread of water may occur in several diseases, and that there are nervous diseases which somewhat resemble in symptoms, and occasionally in their fatal result, the one communicated by rabid animals; and that these nervous diseases may be caused by dread of hydrophobia. I remain, Sir, your obedient servant,

CANDIDUS.

Jan. 1, 1839.

TO CORRESPONDENTS.

The INVALID BED which has recently obtained the sanction of so many public authorities, may be obtained of Mr. KNOX, Upholsterer, Jermyn-street, St. James's-square.

M. W. A. should send his name and address, to be attached to his communication, which, otherwise, possesses no authority.

Letters have been received from *Mr. H. Grey*, *Dr. Wilmot*, *An Old Subscriber*, *A Medical Student*, and *J. M.*

M.R.C.S., Bath. Other plans for "reforming the profession" must have precedence, as they have taken it, of the scheme forwarded by our correspondent, whose intent is equally excellent.